Aka Polyphony: Music, Theory, Back and Forth

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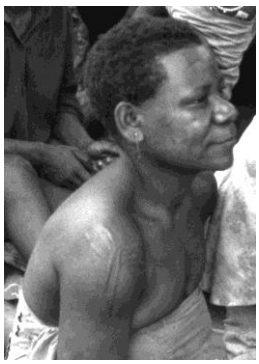

Photo caption : Moako, Central African Republic, Mongoumba, December 1990. Nineteen years after her first recording (CD track 10) (**file 4)**, she is still a major collaborator with ethnomusicologists. (photo by author)

Research in ethnomusicology has shown that behind polyphonic performance in oral traditions there are patterns and sets of rules which are the reference for any music making. The purpose of this chapter is to demonstrate how a high degree of complexity in vocal polyphony may result from the simultaneous and/or successive variation of a substratum of puzzling simplicity. Although the rules in such performance are mainly implicit, they are based on an autochthonous conception that reflects the complexity and links to the music's social and symbolic signification.

These principles will be demonstrated through the polyphonic system of the Aka from Central Africa with the help of five different versions of one song – *dìkòbò dámù dá sòmbé* – that belongs to the divination repertoire *bòndó*. After an introduction to Aka culture and a presentation of the problematics of analyzing oral polyphonies, I shall present the bases of the Aka's theoretical conception of polyphony with two series of re-recording, a process of analytical recording. The results will then be applied to solo and duo performances of the same piece, which will give additional insight into how the material is realized, modeled and transformed in collective "real life" situations. The discussion will also touch on topics intimately related to this analytical work, such as the functionality of Aka music making, fieldwork, linguistics and apprenticeship.

Introduction to the Aka

The Aka live in the rainforest on both sides of the border between the Central African Republic and the Popular Republic of Congo. They belong to a group of

[1] This text is a largely augmented adaption of a previous article published in French: "Rigueur et liberté: la polyphonie vocale des Pygmées Aka (Centrafrique)", In *Polyphonies de tradition orale. Histoire et traditions vivantes*, C. Meyer (ed.), Paris, Créaphis, Coll. Rencontres à Royaumont, 1993, 101-131. The basic material used here, both recordings and fieldwork data, has been collected by Simha Arom between 1971 and 1983. His findings concerning the rules that underly Aka polyphony are illustrated in detail an linked to later research on this music, including my own. I thank Simha Arom warmly for the permission to use his material.

Michael Tenzer (ed.), *Analytical Studies in World Music*, Oxford: Oxford University Press, xx-xx.

populations widely called "Pygmies"[2] and to which belong the Mbuti – including the subgroups Efe, Asua, and Kango – from the Democratic Republic of Congo, the Twa from Rwanda, the Baka, Bakola/Bagyieli and Bedzan from Cameroon and the Babongo from Gabon. They all share the use of counterpoint as a musical technique to which one can add, for some of them, the yodel technique.

Originally hunter-gatherers (Bahuchet 1985), the Aka are now more and more sedentary and live partly from their own agriculture, in the immediate proximity of other populations of villagers of different ethnic groups (Thomas *et al*. 1981-2004, Kisliuk 1998:65). Their musical tradition testifies to their ancestral nomadic lives, as it is deeply structured by hunting (Olivier & Fürniss 1999:119-123): the majority of the musical repertoires are related – in a direct or indirect way – to this activity. One finds not only collective ritual repertoires preceeding or following a hunt, but also others originally reserved for either men or women during the periods of the year where the men were out in the forest for weeks following game, while the women stayed at home. Figure 1 shows a representation of all musical repertoires of the Aka from Mongoumba in the very Eastern part of the Aka area.[3] In the inner circle of this schematic representation, you find the tools of music making (voice, hand clapping, instruments), in the intermediate one the name of each repertoire and in the outer one the circumstance or function of its execution.

Dialectal and musical variability is quite strong in this culture. Many songs and dances circulate with the people that move a lot throughout the area (Bahuchet 1995:61, Kisliuk 1998:99). As these movements reflect partially the dynamics of family links between lineages, the musical and choreographical repertoire is never identical from one place to the other, although the main repertoires and rhythms are the same.

A consequence of their nomadic past is that the Aka use only a few musical instruments, none of which is played without simultaneous singing. Most of the melodic instruments – such as one- and two-stringed musical bows, a harp-zither, a harp and a pair of one-tone flutes[4] – accompany intimate songs. These can be sung by one singer alone, but the structure of the songs is nevertheless based on a multipart conception of call-and-response between a soloist and a polyphonic choir (Fürniss & Bahuchet 1995). Some readers might miss the mentioning of a harp or a lamellaphone, both widespread in this part of Central Africa. They may be heard in an Aka camp, but as these instruments have been borrowed recently from other populations, they have neither their own song repertoire, nor another social function than individual entertainment. This is why they are not included in figure 1.

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[2] As to the "invention" of the concept of "Pygmy", see Serge Bahuchet (1993). This term is derived from the Greek word *pugmaios*, "tall as an elbow". It refers to several different ethnic groups living along the equator on the African continent and speaking languages from different linguistic families. The criteria for grouping these people together are not very clear, but all of them share more or less a bundle of features such as small height, relatively clear skin, being originally hunter-gatherers and singing in polyphony.

[3] This kind of circular representation, inspired by Arom 1994, is now used by several scholars working in Africa (Fernando-Marandola, Le Bomin, Olivier, Vallejo and myself).

[4] A four-hole notched flute seems not to be in use anymore. Music of these instruments is published on CD (Fürniss 1998).

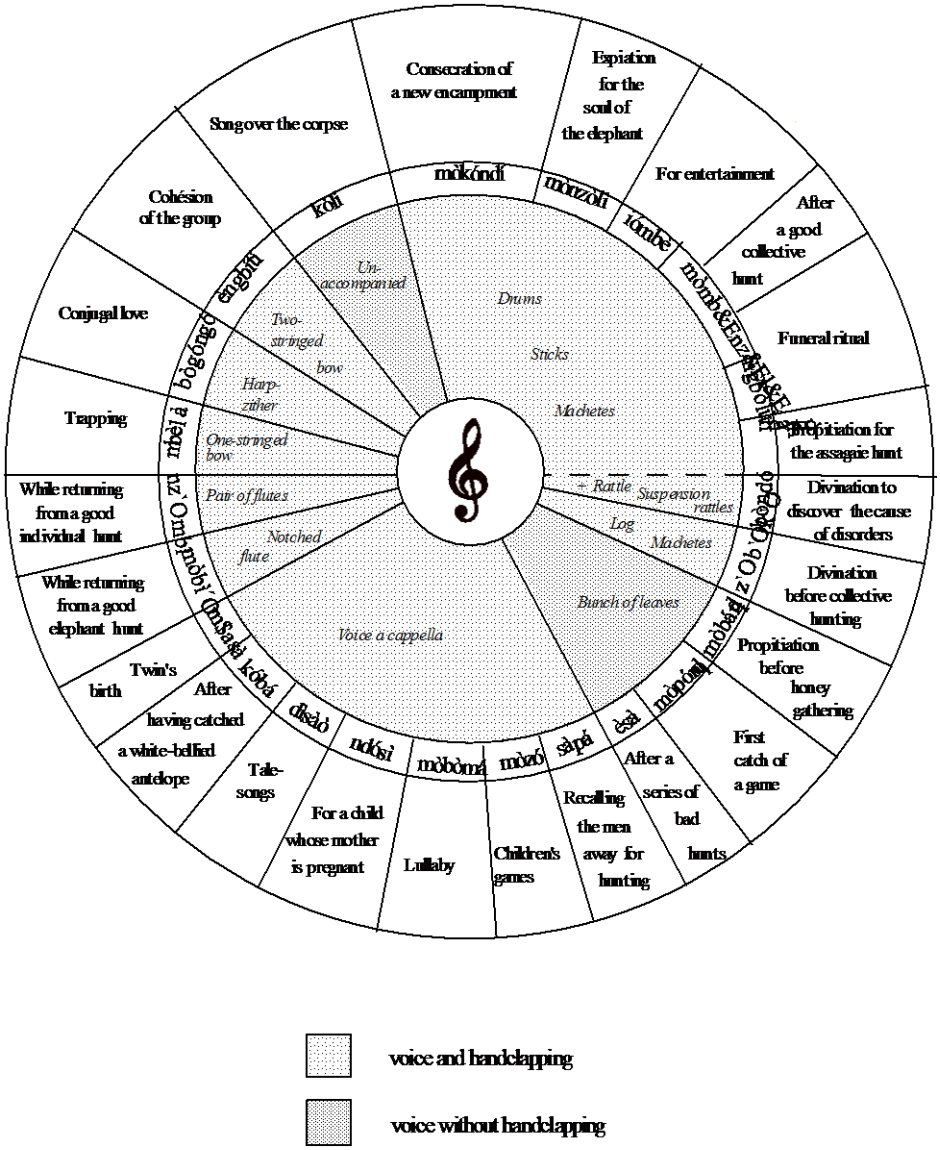

Figure 1. The musical repertoires of the Aka of Mongoumba. All Aka music is sung, with or without instrumental accompaniment.

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[5] A four-hole notched flute seems not to be in use anymore. Music of these instruments is published on CD (Fürniss 1998).

Music making is closely linked to spirituality: "The Aka present an extreme example where religion is nearly exclusively expressed through music and dance, without officiant, without prayer and without offerings, that is without any perceptible religious gesture…"[6] (Bahuchet 1995:59). Singing and dancing *is* the offering to the forest spirits and to the spirits of the ancestors that are supposed to take care of their children. But their attitude depends on human behavior towards them and within the living community. The verb *kàmuz-* denotes a musical aspect of the concept of happiness: "to be happy", "to agree", "to give the response in a song" (Bahuchet 1995:64-5). This explains why the majority of musical repertoires call upon polyphonic singing and are – in one way or another – related to spirituality.

The religious component of music and dance is not always visible. Nevertheless, through the social dynamics that operate in a performance, even what appears as a mere "saturday night" event is an important issue for the camp as a whole, as is demonstrated throughout Kisliuk (1998). In this sense, all Aka singing can be considered "a reflection of the community as well as a communion of religious essence" (Bahuchet *ibid.*). In spite of the progressive loss of hunting rituals, the dances that belonged to them are often maintained and perpetuated in a context of entertainment when men and women meet to dance together.

The main rhythmic basis for singing and dancing is provided by two drums[7], a pair of wooden percussion sticks and a pair of metal concussion blades to which can be added a rattle or a pair of suspension rattles attached to the legs of the main solo dancer. In practice, you might find that the percussion sticks are missing or that the rattle is added only in certain circumstances. Other repertoires are sung *a cappella* with a simple meter-defining accompaniment provided either by handclapping or by the flagellation of the body. The main function of flagellation is to purify the body of evil forces (Bahuchet 1995:62). In three ritual dances that call upon purification of humans, this symbolic action is integrated in the musical activity: the legs are regularly struck with bunches of leaves which produce a thumping, but clearly audible sound that provides the meter for the singing of the dancers.

Each dance can be identified by its own polyrhythmic formula, which is a combination of different rhythms repeated together in a cyclic, or periodic structure. The generic name of a dance refers to this formula as well as to the specific choreography and the song repertoire that goes with it. The polyrhythmic formulæ for all Aka music are isolated and analyzed *in extenso* by Simha Arom (1991:486 ff.). His study further illustrates the principles that underly the process of rhythmic variation within a framework of strict periodicity.

The structure of Aka music is based on repeating cycles of either 8, 12 or 16 beats. Since for each song all cycles have strictly the same length, we call them isoperiodic. For most repertoires, each beat is split into three minimal values, or subdivisions, such that an 8 beat cycle has 24 possible « positions » at which a tone may be sung or a percussion instrument struck[8]. The regular recurrence of similar musical material at identical positions of each cycle demonstrates the general rigour of the periodic framework (Arom 1991:408). This leads the author to talk of this music as *ostinatos* with variations.

Group singing is based on several different vocal parts that unfold simultaneously in polyphony. Two polyphonic techniques can be observed: counterpoint, in which voices are rhythmically and melodically independent, and

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[6] Translations from Bahuchet's French are my own throughout.

[7] One repertoire calls for a struck wooden bar and a pair of metal concussion blades.

[8] This is a ternary metricity. Some repertoires call upon a binary metricity so that the beats are split into two or four minimal values.

homorhythmic singing in parallel intervals (Arom and Pahaut 1993, Fürniss 1999). We will concentrate here on the contrapuntal repertoire as it is this musical trait that distinguishes Aka music from their neighbours' music.

There are no professionnal musicians, every interested person can join in singing or learn to play an instrument[9]. Musical knowledge – as with knowledge in any other domain – is acquired by observation and imitation from birth on, as children are never kept apart from any musical activities of elders. They learn by trial and error with hardly any verbalized instruction. As for the practice of music making, all members of the community have an equivalent status, *i.e.* nobody earns his/her living from music making and nobody is excluded from a performance, although certain singers are more competent or virtuoso than others. The *kònzà-lémbò*, "master of the song", is the person who has acquired the most important musical knowledge (Bahuchet 1995:61). He/she masters not only the entire song repertoire, but also the polyphonic parts of each song and sees to a complete and correct performance. A parallel function exists for the dance: the *kònzà-èbókà*, "master of the dance", or *ginda* (Kisliuk 1998:58) may gain a widespread reputation so that people come from far away to be initiated in the dance and its secrets.

Melodic and rhythmic variation is one of the main concerns of good Aka musicians and there is virtually no limit to the number of contrapuntal lines that can be interwoven. Thus, with the increasing number of participants, the polyphonic texture gets richer and leads to a more and more complex musical expression.

Research Method

Considering the great number of participants and voice-crossings, making a transcription and musical analysis from a conventional recording is extremely difficult, if not impossible. CD track 7 (**file 1)** is a *tutti* version of the divination song, *dìkòbò dámù dá sòmbé*, with the rhythmic accompaniment of two drums, struck metal blades and a rattle. An attentive listening gives the impression that under a dense sound magma there are nearly as many parts as there are singers. In fact, separating out the individual parts presents a formidable challenge.[10] Figure 2 presents another version of the same song with only six singers, three women and three men[11]. The different parts of the notation were obtained through a research technique I am about to explain, and they illustrate the aural phenomenon just experienced: some melodies are alike and meet for a while, but they do not stay identical for very long.

I shall not discuss the issues of transcribing Aka music with Western notation here. The latter is well-enough adapted to the notation of rhythms – under the condition that one abandons the concept of measures (Arom 1991:183). But as to the notation of melodies, it may certainly sometimes seem imprecise, as the Aka's realization of a degree of the scale may vary within a margin of a half-tone. Though melodic and harmonic fourths, fifhths and seventh are quite clearly definable, intervals between neighbouring degrees are less so. The melodic contour being an essential issue for the conduct of the constituent parts of the counterpoint, a graphic representation as proposed in Arom & Fürniss (1992) may be closer to the vernacular conception than

[9] Nevertheless, only men play instruments, except for the two-stringed bow which is reserved for women.

[10] The heuristics and the difficulties of the discovery of the Aka's four part conception are very well illustratred in Arom (1994).

[11] Archive Arom BM83.4.

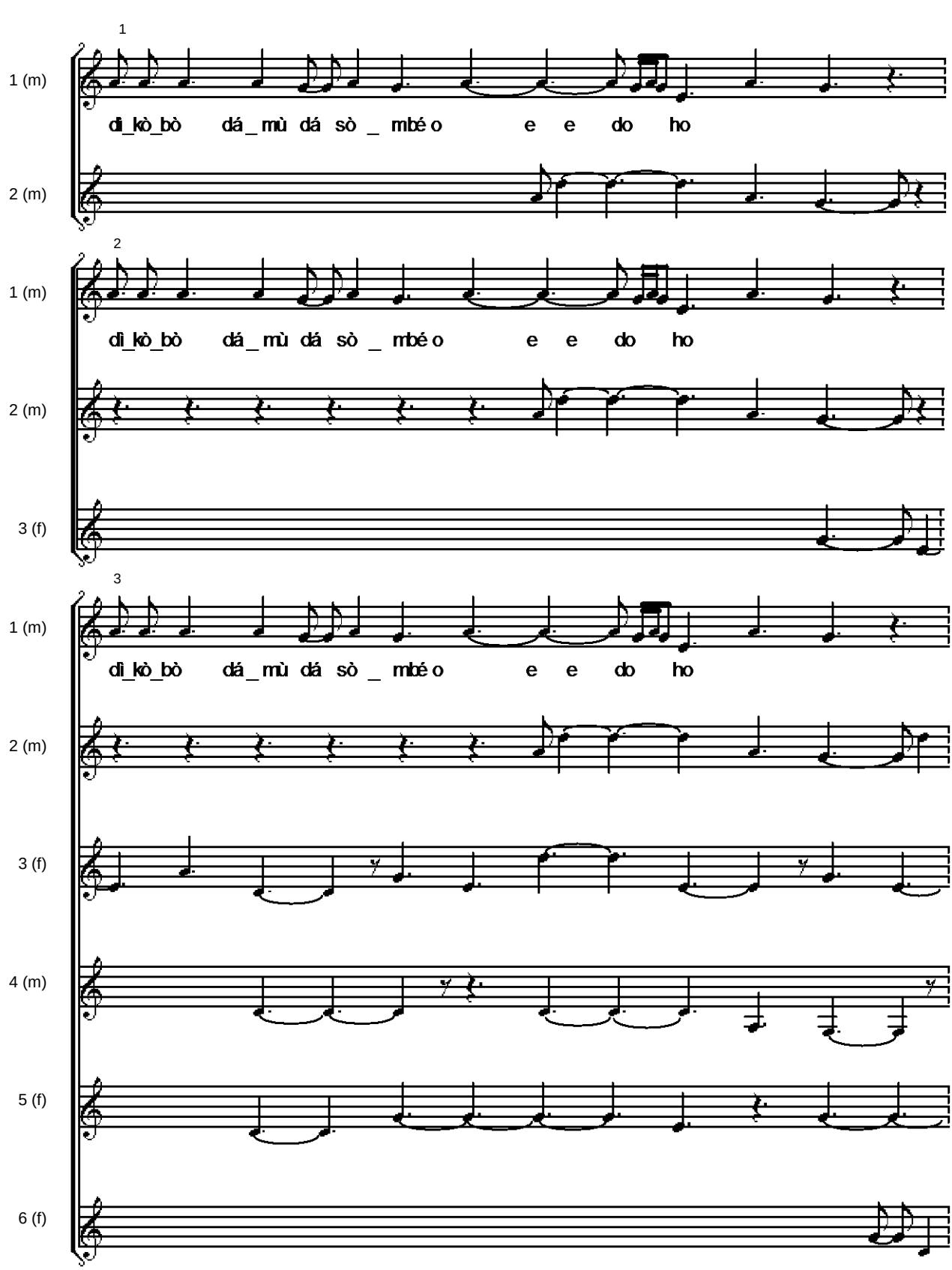
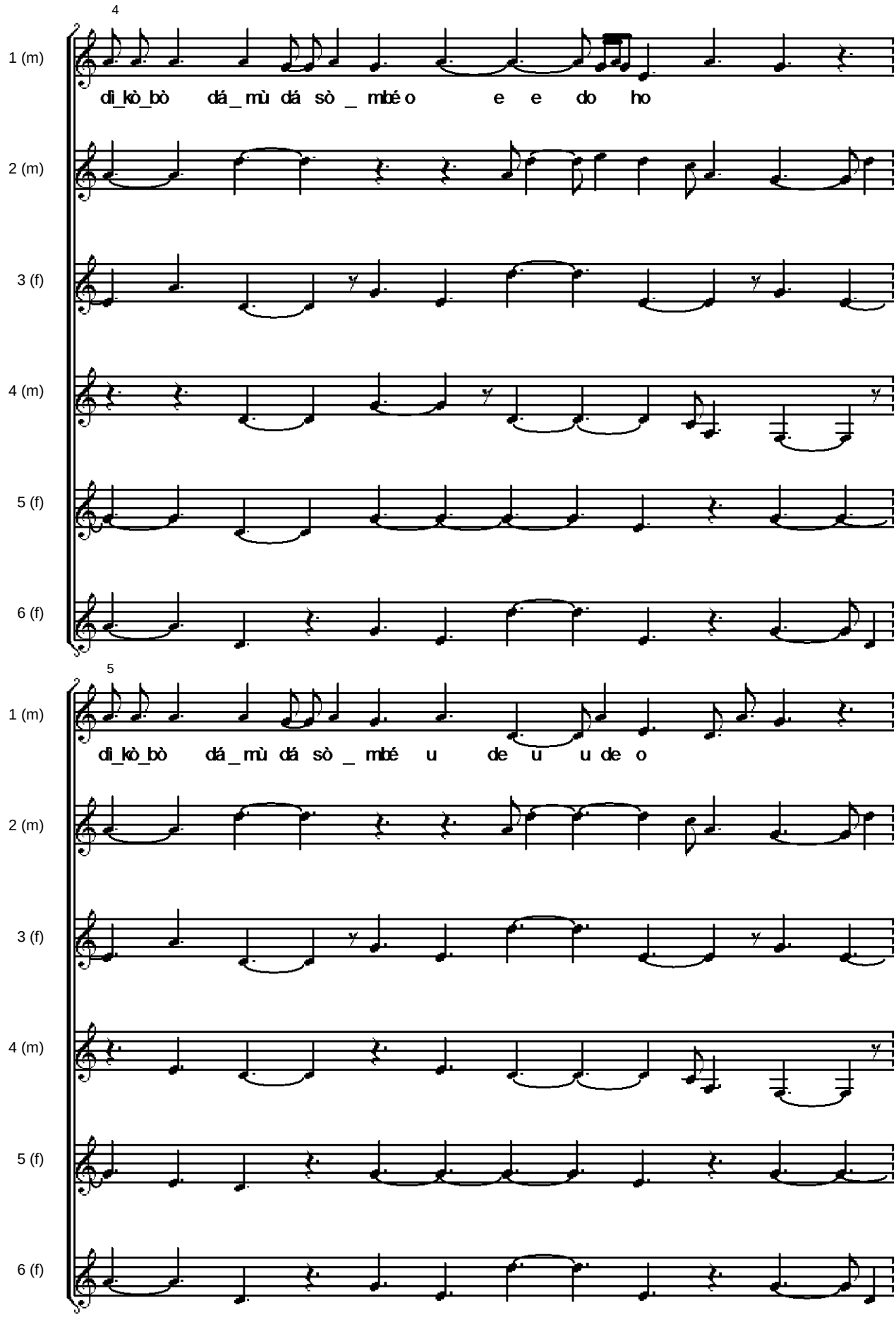


Figure 2. *Dìkòbò dámù dá sòmbé*. Superposition of six isolated parts of a re-recording series. Only the first singer uses words.



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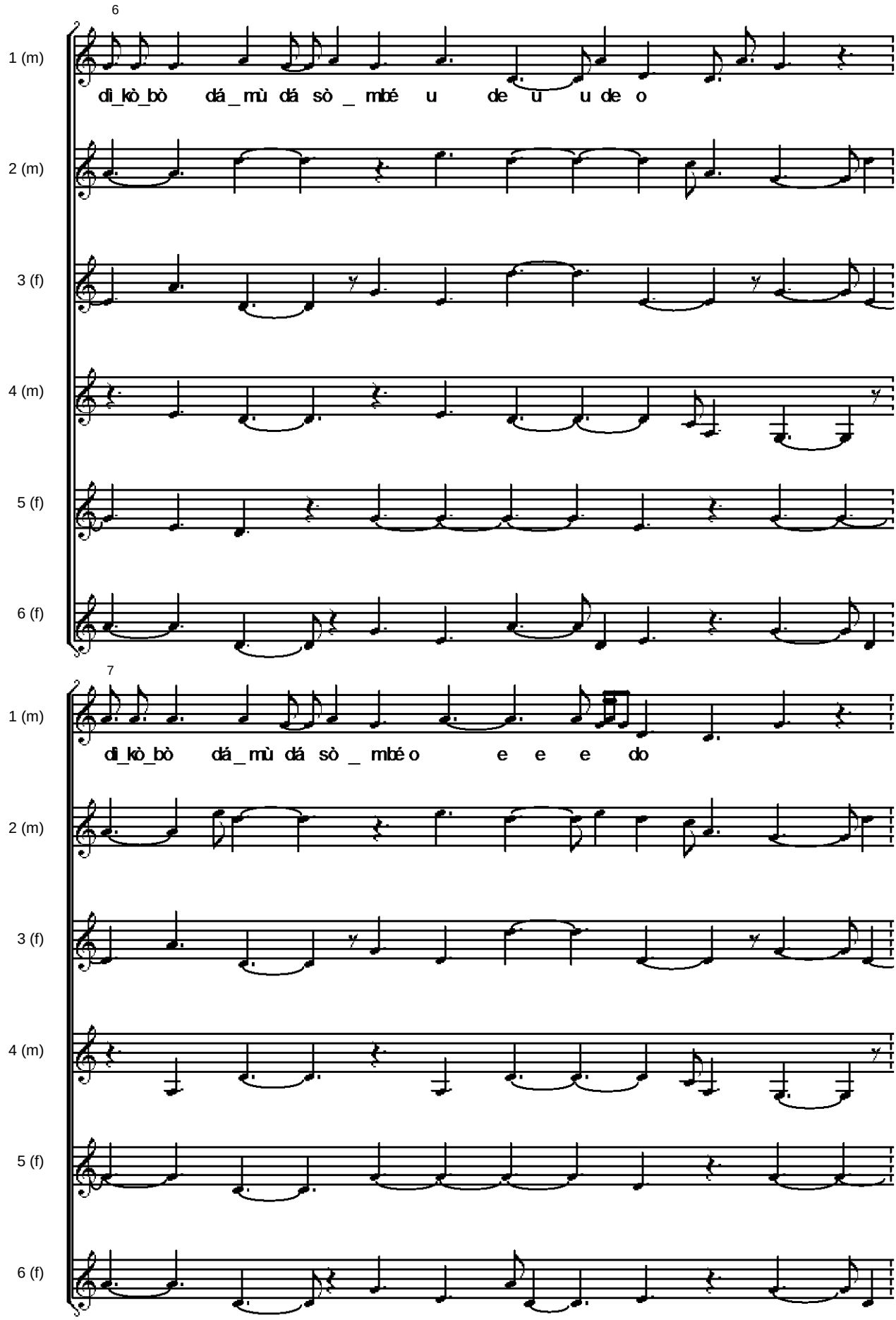

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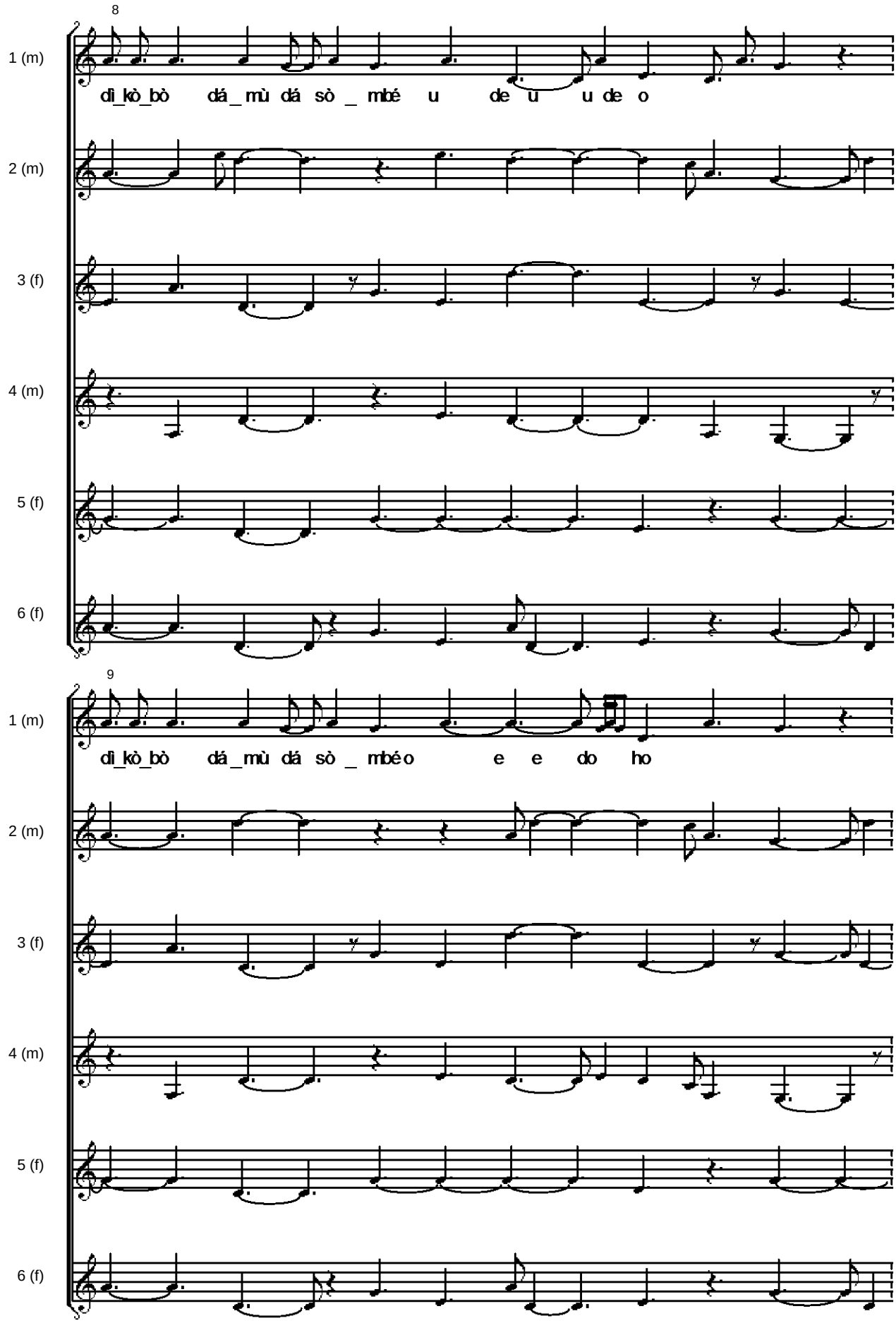
8
1 (m)
dì_kò_bò dá_mù dá sò _ mbé u de u u de o
2 (m)
3 (f)
4 (m)
5 (f)
6 (f)
9
1 (m)
dì_kò_bò dá_mù dá sò _ mbéo e e do ho
2 (m)
3 (f)
4 (m)
5 (f)
6 (f)

transcription in staff notation. But the latter is more suited to introducing readers that are used to staff notation to an African repertoire.[12]

Given the complexity of a polyphonic performance and the absence of verbalized apprenticeship, this study could not be possible if I used only conventional recordings. The only practical way to transcribe each part is to isolate it from the others. Simha Arom (1976) developed the technique of re-recording as an analytical device for the study of orally transmitted polyphonies, and it has been applied to the material presented here: the different constituent parts are not recorded simultaneously but successively, each of the singers hearing in headphones the part or parts of the previous singer(s)[13]. For the singers, the introduction of this process takes some getting used to, as in real-life performance the melody can vary from one cycle to the next. But in order to understand the essential structure of the music and to get access to the reference pattern for any variation, one needs to work first with versions that are nearly unvaried. A second step is to add variations and to determine, through analysis, the rules from which they are made. Each participant is asked to sing without variations to obtain a minimal version of each part of the song, which enables transcribing, evaluating and comparing the variations later. The superposition of the isolated parts results in a synthetic version of the complete polyphony (see figure 2, which illustrates nine 12-beat cycles). The re-recording technique is validated when the different individual recordings are overdubbed and played back to the bearers of the tradition, and then recognized as an acceptable version of the given song[14].

But before going into the analysis itself, I would like to pay tribute to our musicians. Though I was not yet an ethnomusicologist when this material was recorded, I worked myself with the same singers between 1989 and 1994. Ndolé, Mokenzo, Botambi, Moako and Dikondi are members of a family that lives near Mongoumba in the southeast Central African Republic. All of them are excellent singers with a solid knowledge of their musical heritage. Working with my research colleagues and me, they became experts at making analytical recordings, adept at producing minimal versions of any song. Their patience during the quite tiring re-recording sessions is remarkable. The discussions that are initiated by this type of work are very enriching for all of us. One day, Ndolé did not agree when I wanted the children to keep away in order not to disturb the recordings: "No, Susanne, I want them to share what we are discussing here. They would never hear it in this way again".

The Aka's conception of polyphonic singing : Cognitive premises

Constituent parts of the polyphony

According to Arom (1994) Aka counterpoint is based on four constituent parts (though, as mentioned, the number of *actual* melodies sounded may be greater), each of which is named and has distinctive features. For every song, each of the four parts has its own essential melodic pattern. It consists of a minimal and non-varied version of the part, determined by the presence of certain scale tones that are systematically located in

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[12] Other musical transcriptions of Aka polyphonies are published in Arom 1973b, Fürniss & Bahuchet 1995, Fürniss & Olivier 1997, Kisliuk 1998 and Fürniss 1999. A system of graphic visualisation has been used in the CD-ROM Arom *et al.* 1998.

[13] The evolution of computer technology at the beginning of the 21st century allows now direct multitrack-recordings even in difficult field conditions (Fernando-Marandola 2002).

[14] The validity of this *a posteriori* synchronization can be experienced in the section "Analyser" of the CD-ROM *Pygmées Aka. Peuple et Musique* (Arom *et al*. 1998).

specific positions of the cycle. This pattern is a reference for the several variations, in terms of which it is realized[15]. The four parts are :

– the *mòtángòlè*, literally "the one who counts", which is generally sung by a man. It is the principal voice that contains the essential words of the song and allows the other singers to identify the piece without ambiguity;

– the *ngúé wà lémbò*, literally "the mother of the song", is a male part as well. It is generally situated lower and has longer rhythmic values than the *mòtángòlè*. It is the equivalent of a bass part;

– the *òsêsê*, literally "below" (which means inferior in hierarchy to the *mòtángòlè*), is a female middle voice characterized by fairly little melodic and rhythmic movement.

These three parts are sung with the "chest voice" or laryngeal mechanism 1[16].

– the *dìyèí*, literally "yodel", is sung above all the other parts by women. It is determined by the yodel technique, a constant alternation between laryngeal mechanisms 1 and 2, which is commonly called "falsetto", or "head voice". It consists of melodies of mainly wide intervals and uses specific vowels correlated to the two yodel registers: low yodel register – mechanism 1 – open vowels as [e̲, a, o̲][17]; high yodel register – mechanism 2 – closed vowels as [i, y, u] (Fürniss 1991).

The three latter parts do not use words, but are sung with meaningless syllables. This relates to musical and linguistic issues, as the Aka language, like the majority of African languages, is a tone language where the pitch of the syllables has a relevant lexical or grammatical significance (Cloarec-Heiss & Thomas 1978). It has two tones – high and low – that change the sense of the words; for example, *mbókà* means "village" and *mbòká* means "plantation". In printed text, the tones are indicated above the vowels that support them: *ò* is a low tone, *ó* a high one.

The consequence of this linguistic constraint on singing is that the melodies have to follow roughly the tonal scheme of the language if the words are to be understood by a listener. Generally, in traditional African multipart singing, all parts pronounce the same words[18]. This means that the melodies of the parts progress with the same curve and therefore produce parallelism (Jones 1959:217). But in the specific case of contrapuntal polyphony, where the melodies move in different directions – such as the example we are considering – words are not articulated by all parts simultaneously because their sense would be lost. This is why only the *mòtángòlè* uses words whereas the other parts do not (Arom and Pahaut 1993).

Knowing the names and features of the four constituent parts of the polyphony, one may be tempted to consider that is is easy to get access to the formal structure of *any* polyphonic song. But in reality Aka hardly ever refer to the parts and their patterns explicitly. Indeed, they are immanent concepts that are never taught to the musicians as such. Many singers don't know them and learn about the parts only when there are too many errors in the performance (Arom 1994:148). This is a particularly delicate issue in ritual performances, as the spiritual efficiency of music making is compromised when the polyphony is not well sung. Then, the "master of the song" interferes and indicates the parts that are unsufficiently executed. He reminds the singers of the importance of a complete polyphonic texture which pleases the spirits and inclines them to help the community achieve a successful and harmonous life. Many of elder informants

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[15] The conception of the vocal polyphony is synthesized in the entry lémbò, "song", of the *Encyclopédie des Pygmées Aka* (Thomas *et al.*, vol. II(5), 2003, p. 146-148).

[16] In order to clarify an abundant and often unclear terminology concerning voice production, the term of "laryngeal mechanism" is proposed by Henrich, Roubeau and Castellengo (2003).

[17] In order to avoid phonetic transcription, I underline the open vowels: e̲ is pronounced like in "bed", o̲ like in "four".

[18] Exceptions and an interesting discussion of this phenomenon can be found in Agawu (1988).

confirmed that this was the way they discovered the existence of the polyphonic parts; some of the younger ones have learned them while working with Simha Arom or myself.

Varying the melody

In order to give life to the basic parts, the Aka use three realization types of the patterns. Again, their specific features are as immanent as the features of the parts and the terms are rarely used (Thomas et al. 2003, vol. II(5):146-148):

– *kpókpó*, literally "straight on", is the equivalent of the English word "pattern", as a song realized "*kpókpó*" is the mere reproduction of the unvaried pattern. It can be heard at the beginning of a performance, when a singer is not particularly inspired or not very experienced. When developing the variations during a normal performance, a singer may also use the pattern as one of the possible variants;

– *kété bányé*, literally "take a shortcut" or "take a small path alongside of the large way", is the variation of the melody around the pattern. For each song, each constituent part has its stock of variants that the singer uses following his/her musical capacities and inspiration;

– *kùká ngó dìkùké*, literally "simply cut it", is a specific process of rhythmic variation that transforms the cycle into a succession of several short segments (see later, *dìyèí*). This is combined with several melodic variation techniques and therefore demands a high mastery of the voice and a complete knowlegde of all variation possibilities for a given song.

Dìyèí (yodeling) is not only one of the constituent parts, but also a yodelled variation technique that can be applied to any of the parts as we shall see later. The way of projecting the voice is part of Aka musical esthetics: "one should not taper off the phrases but project them out brightly, letting the notes ring through the trees while listening for the echo" (Kisliuk 1998:26).

Patterns and variation techniques

Let's come back to the song *dìkòbò dámù dá sòmbé* and examine the patterns and variants of each part individually. In the present re-recording series[19], some parts have been recorded more than once in order to identify their minimal pattern. The series contains nine "takes": we have one *mòtángòlè*, two *ngúé wà lémbò*, one *òsêsê* and five *dìyèí*. As the parts were recorded one after the other during the same session, the same singer may sing the same part twice or s/he may sing different parts successively. I shall not focus especially on the succession of the variants in this first part of the analysis, but concentrate on the essential patterns and the techniques singers use to vary them.

Aka melodies can be described as being based on an anhemitonic pentatonic system — a five tone scale in which neighbouring degrees are separated by intervals that can vary between about a major second and a minor third. Musicians, however, are more concerned with correct relationships between parts than they are with a rigid idea of interval sizes, and these may vary even within a single performance.

Aka music does not operate with absolute pitch. Every singer who begins a song, situates it in a comfortable tessitura for his/her own voice. The other singers will follow him/her by choosing the parts and variants that correspond the best to their voices. In order to facilitate direct comparison between the versions, I transcribe for convenience in relative pitch using the degrees [D], [E], [G], [A] and [C]. Everything is notated in metrical transcription that reflects the underlying structure of the cycle: 12 beats with a ternary subdivision[20]. The notation is layed out in a paradigmatic representation which for current purposes can be defined as a vertical alignment of all possible variants of a

[19] Archive Arom BM83.4.

[20] For the distinction between rhythmic and metric transcription, see Arom (1991:228).

part. Beat 1 is determined by the beginning of words as sung by the the *mòtángòlè*, although the *ngúé wà lémbò*, *òsêsê*, and *dìyèí* do not begin at the same position in the cycle.

1. Mòtángòlè.

Figure 3 is an inventory of all variants sung by Mokenzo, the singer of the *mòtángòlè*. He sang without any accompaniment except for his own handclapping, which gave him the metrical framework (left channel of CD track 8) (**file 2)**. The letters on the left identify the variants. They are arranged on the paper from top to bottom following the increasing dissimilarity from the minimal version *a*. The order of variants in this particular realization is indicated by the numbers on the right of the notation and results in the following sequence : *a-a-a-a-c-e-b-e-a-d-g-b-g-f-g*. Boxed notes indicate the first appearance of a variant.

The principal characteristic of this main part is the enunciation of the words of the song: *dìkòbò dámù dá sòmbé*, literally "The hair of my pubes is dense"[21]. When words are sung, Aka music is strictly syllabic, which means that one syllable of the words is allotted to one note of the melody like in beats 1-6 of variant *a*. The tonal scheme of the words determines the melodic oscillation between the two degrees [G] and [A]. The periodicity, however, is independent of any linguistic consideration. As a multiple of the 4-beat formula of the rhythmic accompaniment that underlies all songs of the *bòndó*-repertoire, it could have ended after the words with beat 8, but in this particular song the cycle is extended to 12 beats. This is why the *mòtángòlè*'s phrase ends with non-significant syllables that allow a melodic extension to include [E] in addition to the two initial tones.

One can see both melodic and rhythmic variations. These mainly take place on beats 1-2, 6-8 and 10. The variant *g* is strikingly different and is sung without words, which liberates the singer from both the rhythm and tonal scheme of the words on b.1-3.

The types of rhythmic variation seen here are *binary splitting* (var. *c*, b.10), *division of long durations* (var. *c*, b.6-7) and *smoothing* of small oscillations (var. *g*, b.1+3; var. *c*, b.8). All variants, however, respect some essential rhythmical events that can therefore be considered as relevant identificatory features of this vocal part:

- the commetrical progressions on b.2-3, 5-6, 9-10, 11: the melody is on the beat;
- the contrametrical progressions on b.8/2[22] and 4/2: the melody is off the beat;
- a hemiola on b.3-4;
- the silence on b.12.

Further, the *mòtángòlè* is rhythmically defined by a constant ambiguity between ternary and binary subdivision of the beat, as b.1 and 10 are divided in two, whereas b.3, 4 and 8 follow the ternary subdivision of the percussion support.

[21] The Aka ideal of a harmonous life is having many children and plentiful meat to eat. Sexuality is therefore a recurrent theme in songtexts.

[22] The number after the slash indicates the subdivision within the beat.

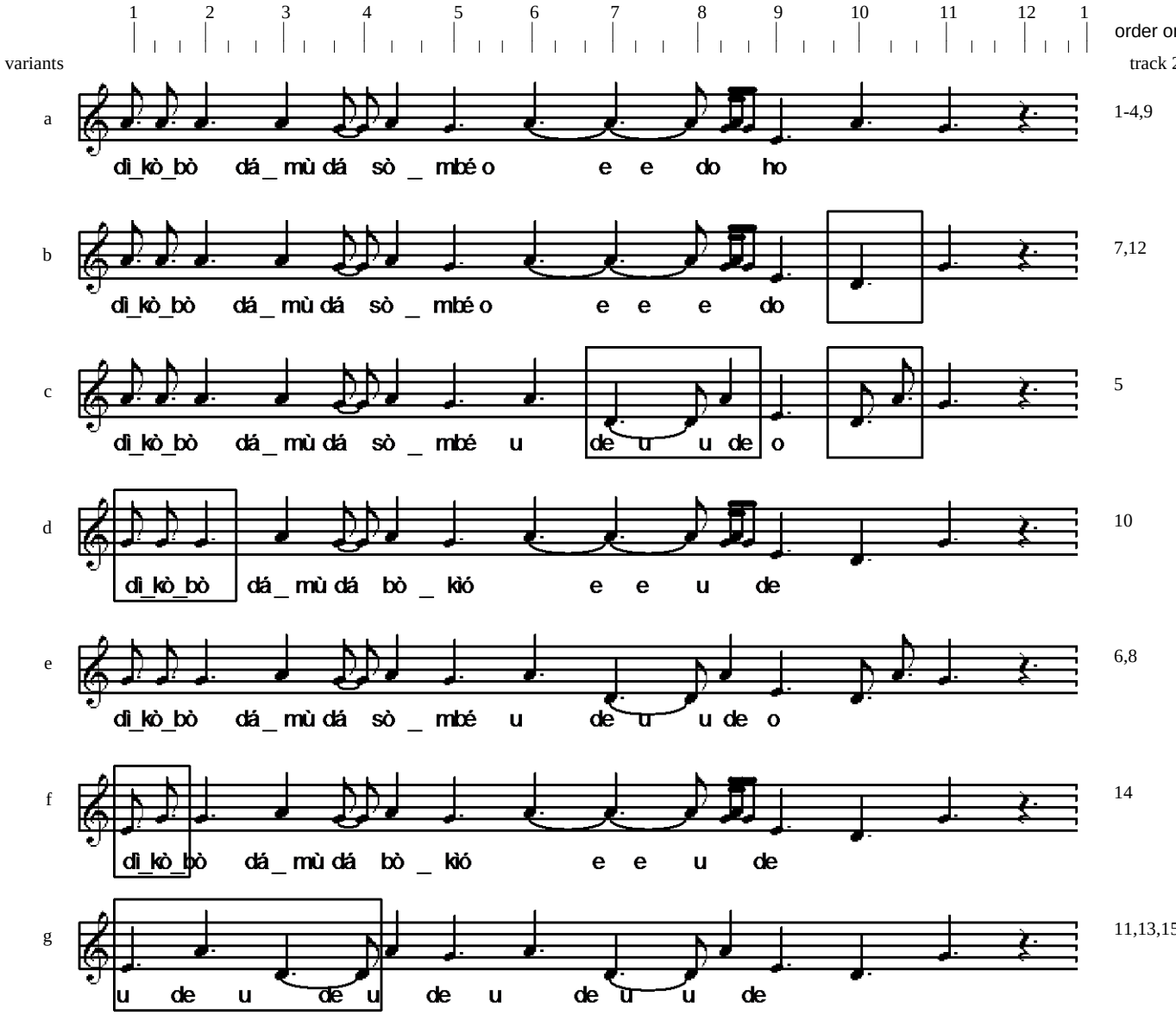


Figure 3. Variants of *mòtángòlè* sung by Mokenzo

The melodic variations can be made according to a principle of *equivalence between* or *commutation of fifths*. According to the structure of the scale, some degrees in a variant can be substituted by another one a fifth below or a fourth above – here [D] instead of [A] on b.7 and 10. There is also commutation of *neighbouring degrees* – [G] instead of [A] on b.1, 2 and 8; [E] instead of [G] on b.1. These are the operational principles in the song we study here. Much work has still to be done in order to establish true general rules of interval combinations in Aka polyphony.

The realization of [G] instead of [A] on b.1 calls for further explanation. The tonal scheme of the words, – *dìkòbò dámù dá sòmbé*, three low-tone syllables followed by a high tone –, might suggest a melodic pattern such as that found in variants *d* and *e*. So, if [G] is the musical representative of the low speech tone, it is [A] that, in this position, is in fact the neigbouring variant above [G]. This kind of variation may bear on the comprehension of words since it modifies their tonal scheme. But as all words of this song – as of all other songs of the contrapuntal repertoires – are contained in a single sentence which is repeated over and over – and with very few variations within a performance or from one performance to another –, the comprehensibility is finally a minor concern and cedes importance to musical variation.

Since all versions of the cycle are considered equivalent, one can summarize the variants of *mòtángòlè* with the following paradigm:

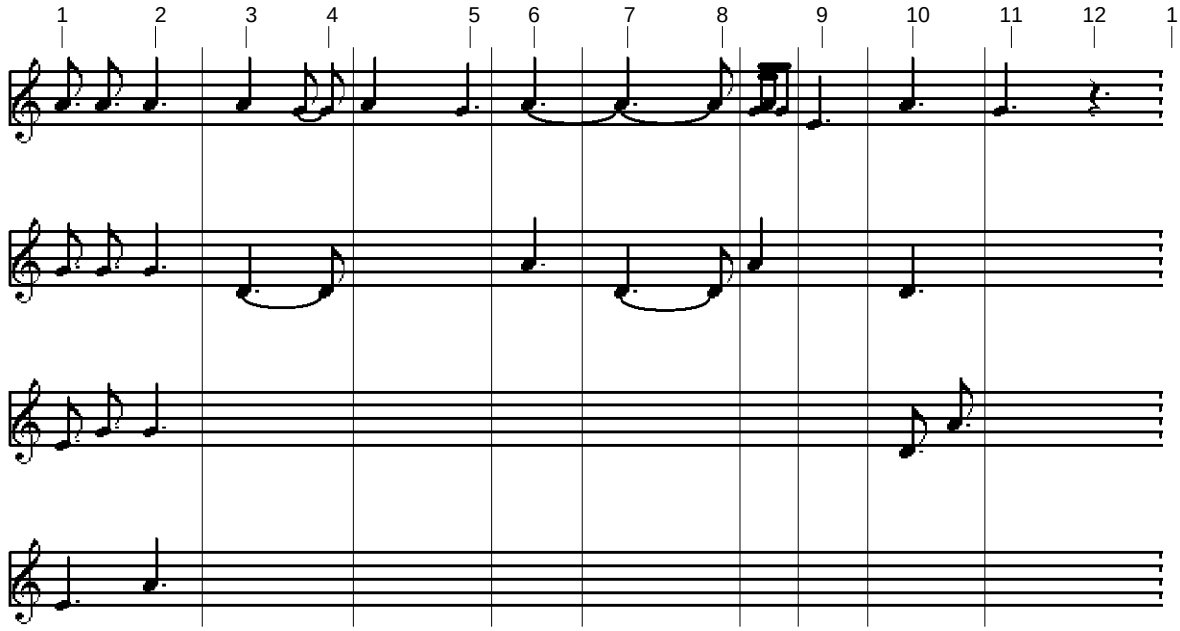


Figure 4. Paradigm of variations in the *mòtángòlè*.

2. Ngúé wà lémbò

The following inventory of *ngúé wà lémbò*'s variants (figure 5) includes those of two versions of part sung by Ndolé in two different octaves (low octave: variants *b-k*, high octave: variants *a*, *k-o*). The variants are here put together following the similarity of their musical material. The notation starts with the beginning of the melody of the *ngúé wà lémbò*, but since this coincides with beat 6 of the *mòtángòlè* part, beat 1 appears in the middle of the staff.

CD track 8 (**file 2)** is the combination of the lower ngúé wà lémbò (right channel) and mòtángòlè (left channel). The succession of the variants is b-b-c-f-g-e-i-e-j-d-h-i-i-h-k.

CD track 9 (**file 3)** is the combination of the higher ngúé wà lémbò (left channel) and dìyèí (right channel) in another sequence of the variants: a-m-l-m-o-k-n-m-m-m-m-l-m-l.

In the melody, the [A] of b.2 and 6 can be replaced a fifth higher by [E]. Neighbouring degrees are used to *embroider* around the sustained [D] of b.8-9 and to fill out the descending fourth [D]-[A] on b. 9-10. In fact, there is only a very reduced stock of melodic variations, which are summarized in figure 6. Thus, the melody can be presented as a *succession of variable sections*, the combination of which gives way to a patchwork of realizations.

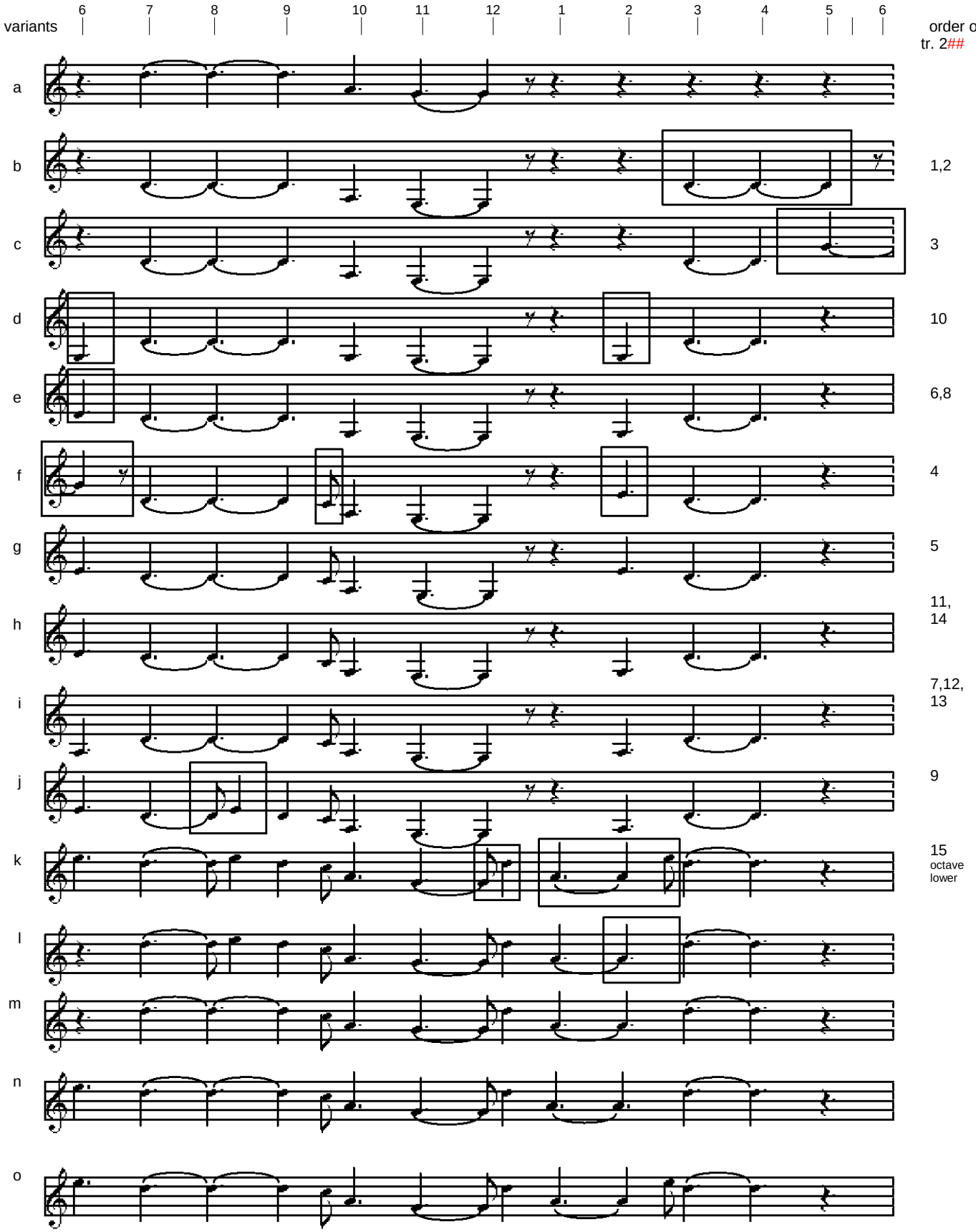


Figure 5. Variants of *ngúé wà lémbò* sung by Ndolé.

The most interesting developments in this part have to do with phrasing and its relationship to periodicity. The minimal version, variant *a* of figure 6, is characterized by very few occupied positions within the cycle which leaves a large section musically blank. One of the main principles of variation in this part appears to be the *filling out of silences*. As a consequence, there are *variations in segmentation* resulting from the emergence of different ways to group the same pitches when they return in subsequent cycles. As more and more tones substitute for the rests that were present initially, the resulting phrases have new relationships with the cyclic framework.

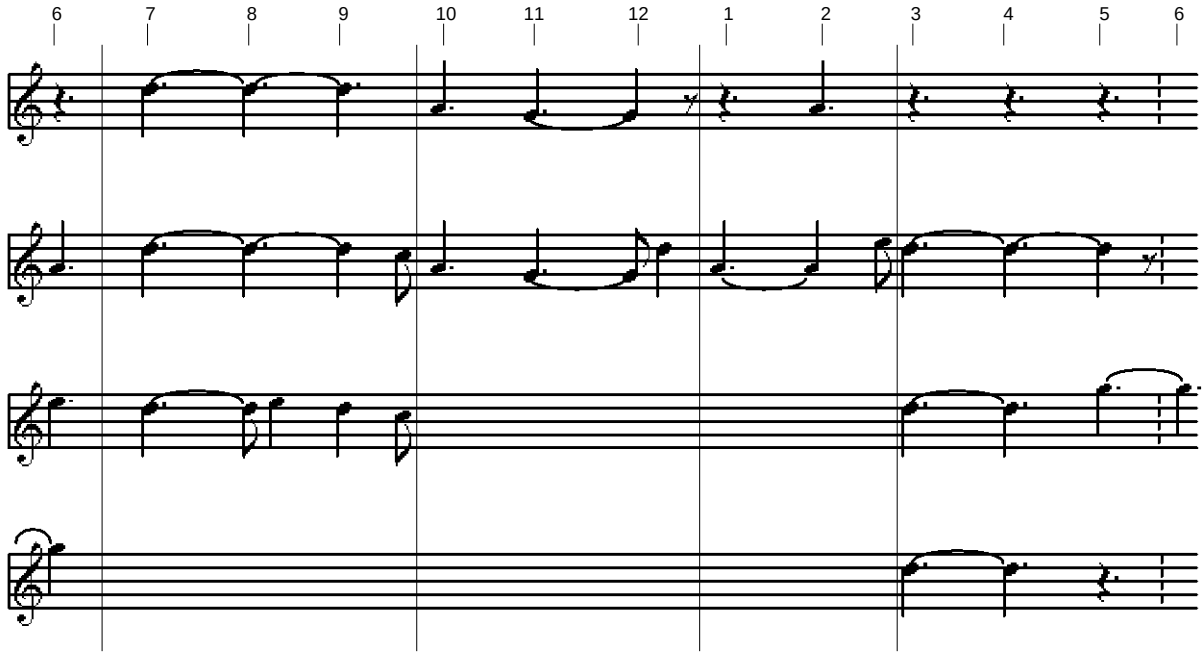


Figure 6. Paradigm of variations in the *ngúé wà lémbò*.

For instance, the minimal pattern of variation *a* contains a single melodic segment lasting from b. 7 to b.12; the introduction of the [D] on b.3-4 and its anacrusis on b.2 (var. *b-j*) adds a second one. The filling out of b.1 (var. *k-o*) causes an important switch in the perception of the part: the two segments are linked to become again a single one which covers the whole cycle. This link is reinforced by the syncopation on b.12 which has a rhythmic impact on b.1.

The way the silences are positioned influences the perception of the period's beginning and ending points: either it can be considered as identical to the *mòtángòlè*'s or *overlapped* with it, which makes the overall structure of the song much more complex. In var. *a-k*, the period can be considered identical to the *mòtángòlè*'s, since the two segments fit in the frame between b.1 to b.12. But in var. *k-o*, the period of the *ngúé wà lémbò* is clearly desynchronized with the *mòtángòlè*'s, since it starts six beats later, going from b.6 to b.5. This is an eloquent example of a variation technique that gives the Aka singers the possibility to efficiently modify the melodic and rhythmic combinations of a limited collection of material. Other examples of this variation technique will be found in the *dìyèí* part (figure 8.1 and 8.2).

Apart from var. *c+f*, the variants presented here are not subject to *syntactic constraints*, they can be sung in any random order. Var. *c*, however, mandates a determined sequence: as beats 6-7 are tied together, it can only be followed by var. *f*. More examples of this kind of phenomenon will also be found in the *dìyèí* part.

3. Òsêsê

Like the *ngúé wà lémbò,* the women's part *òsêsê* (figure 7) does not begin on the same beat as the *mòtángòlè*. Except for one, all variations tie b.12-1 and most of them have a silence on b.4. Although there is not much variation, the *òsêsê* confirms the variation techniques of commutation of fourths – [G]-[D] on b.7-8 – and of filling out a descending fourth with an intermediate degree – b.2 and 6/3.

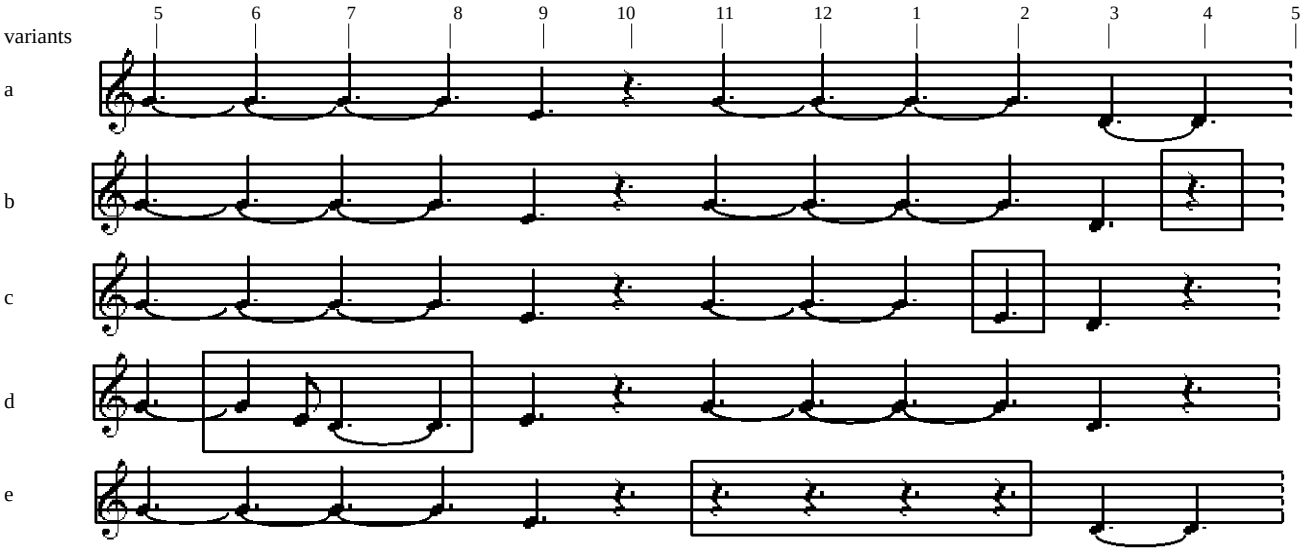


Figure 7. Variants of *òsêsê* sung by Botambi.

The order of variants sung by Botambi during this re-recording session is *a-c-c-b-b-b-c-d-d-e-b-b-c*.

4. Dìyèí

Other variation techniques can be discovered by the analysis of five different realizations of the yodelled part *dìyèí* (CD track 9) (**file 3)** of which Dikondi's version (right channel) sung together with the higher *ngúé wà lémbò* (left channel) is the most interesting one. She sings with many variations in the following order: *k-k-l-k-k-k-n-o-l-l-l-l-m-l*. She starts on b.11 as indicated by a star.

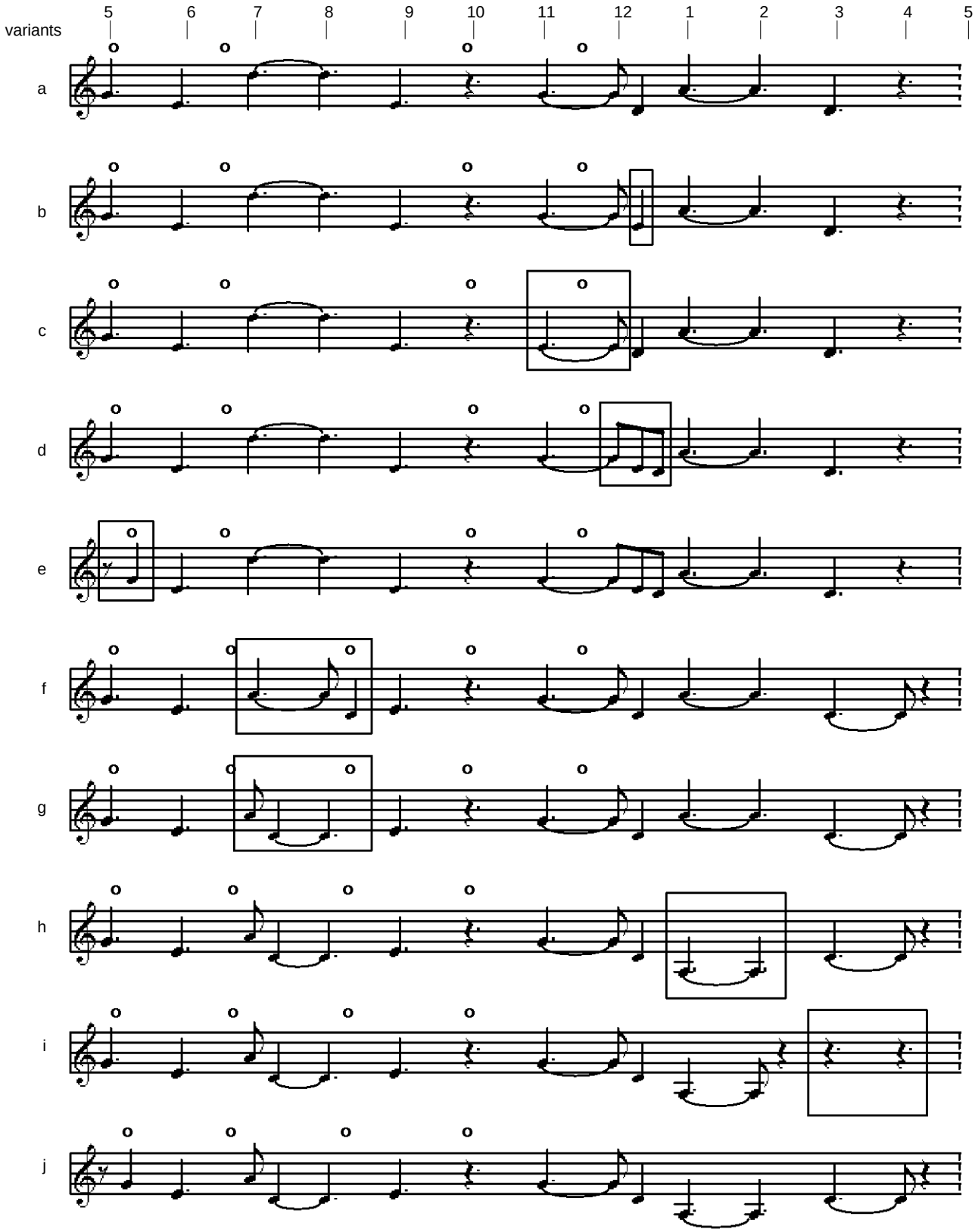


Figure 8.1. Variants of *dìyèí* sung by Dikondi and Mokenzo.

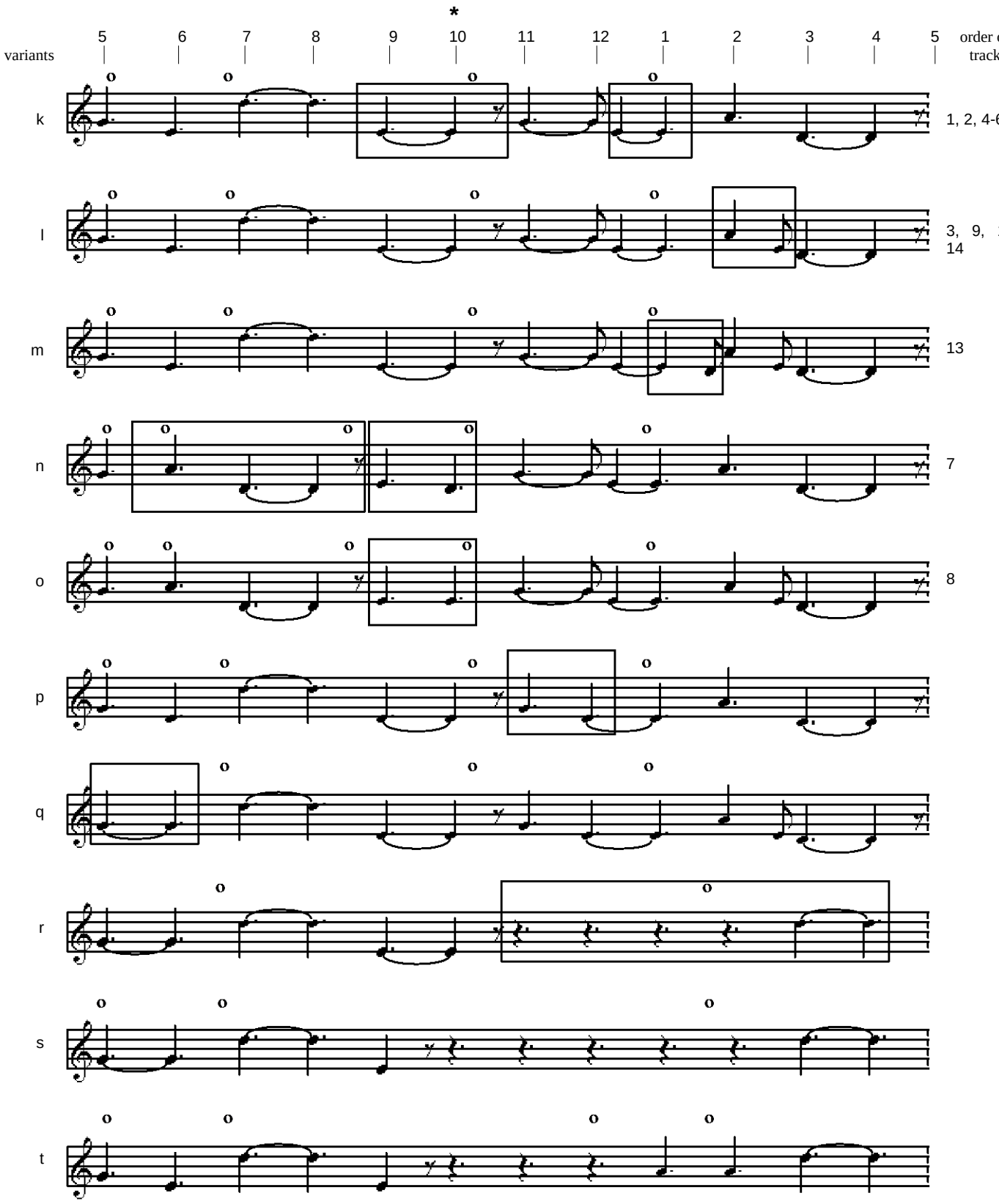


Figure 8.1. Variants of *dìyèí* sung by Dikondi and Mokenzo.

The inventory shows 20 variants which I have grouped following a rhythmic trait that underlines the structural overlapping of *dìyèí*'s cycle with *mòtángòlè*'s. The variants of figure 8.1 contain a change of pitch at the first beat of *mòtángòlè*'s cycle, whereas the variants of figure 8.2 reinforce the overlapping by a tie between b.12-1.

Apart from some rhythmic and melodic variations that have already been introduced, this large stock of variants illustrates another particularity of Aka music: the *equivalence of octaves* in melodic composition. This can be seen on b.1+2 of var. *h-j*: the high [A] is transposed to the lower octave, whereas the melodic surrounding stays identical and the metric position of the degree is maintained. The same phenomenon appears in var. *r-t* on b.3+4 and in var. *n* and *o* on b.7+8. Its use gets more complex and creates very interesting variations when it is combined with the commutation of the fifth or the fourth (var. *f-j*, b.7-8).

The period is filled out with mainly two melodic segments. The syntactic liberty in lining up the great majority of these variants (var. *a-q*) can be illustrated with the sequences realized in other versions of this part, as sung in our re-recording series (unfortunately we don't have the space to put them all on the CD):

- dìyèí sung by Mokenzo to the mòtángòlè: a-a-a-a-d-d-a-d-c-a-a-d-e-b-a;
- *dìyèí* sung by Mokenzo to the *òsêsê*: *a-a-a-a-a-e-a-e-a-e*;
- *dìyèí* sung by Mokenzo again to the *òsêsê*: *f-g-g-g-h-g-i-g-j-h*.

But still, some variants are subject to syntactic constraints. Var. *r-t* are compatible as such only with each other because they introduce a unique segment going from b.3 to b.9-10. This causes a shift of the initial segmentation of this part. Although each of these variants can follow any other, the switch back to the other ones is only possible in the middle of *dìyèí*'s cycle, *i.e.* on b.11. In this context, var. *q* appears as a transitional variant that facilitates the switch-back, as we can see in the sequence of the second *dìyèí* sung by Dikondi to the higher *ngúé wà lémbò*: *p-p-p-k-k-p-k-k-k-t-r-s-q-l*;

*

The principles of variation showed here all belong to the variation technique *kété bányé*. The metaphor of the "small path alongside of the large way" is easy to recognize as the main segments of the melody can clearly be identified. This is not always easy when the *dìyèí* is sung in the variation technique *kùká ngó dìkùké*. Let us consider a take from a different re-recording series[23] in which completely new variants are introduced (CD track 10) (**file 4)** (Fig. 9).

As the name of this technique indicates – "simply cut it" – the melody is split into smaller slices of up to 4 segments by the introduction of very short breaks. The melodic variation makes a large use of both commutation of intervals and equivalence of octaves, creating a succession of mainly large intervals that gives a special importance to the minor seventh. Whereas the ear may have difficulties to recognize the pattern, a trained eye can nevertheless follow it throughout the whole paradigm.

Yodelling and melodic variations

The equivalence of octaves as a principle of melodic variation has a direct bearing on the application of the yodel technique. Although the alternation between laryngeal mechanism 1 and 2 (chest and head voices) is generally correlated with melodic movement in large intervals such as fourths, fifths and minor seconds, the yodel is also used in melodic progressions with a reduced ambitus. Thus, in figure 8, one can find yodelled major seconds (var. *f-j*, b.8-9 and var. *n*, b.9-10) and even the change of mechanism on the same degree (var. *o*, b.9-10 and var. *t*, b. 1-2. (All degrees sung in mechanism 2 are indicated by a "°" in the transcriptions.) What is important for

[23] Archive Arom BM74.31.6.

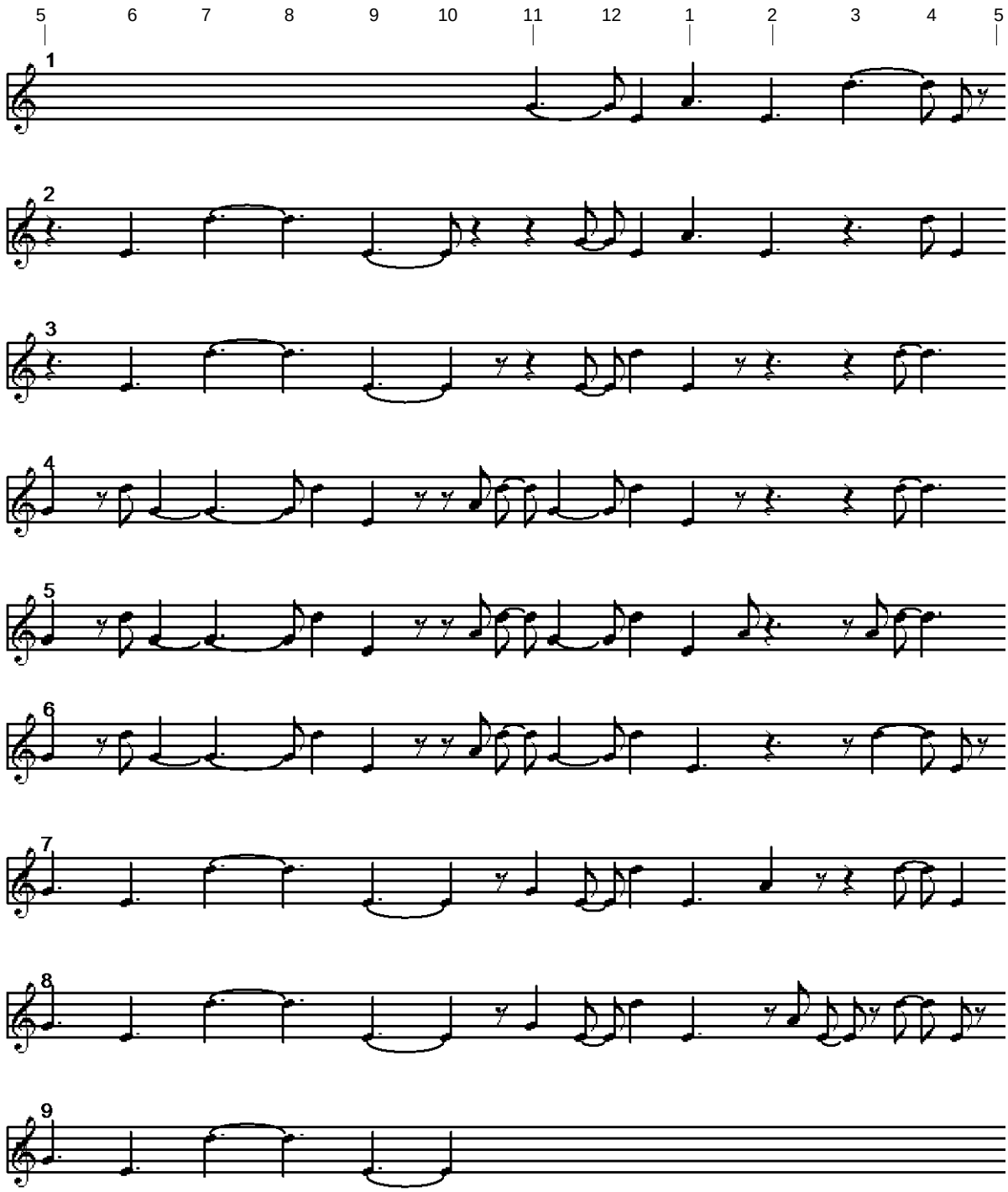


Figure 9. *Dìyèí* sung by Dikondi in the variation technique *kùká ngó dìkùké*.

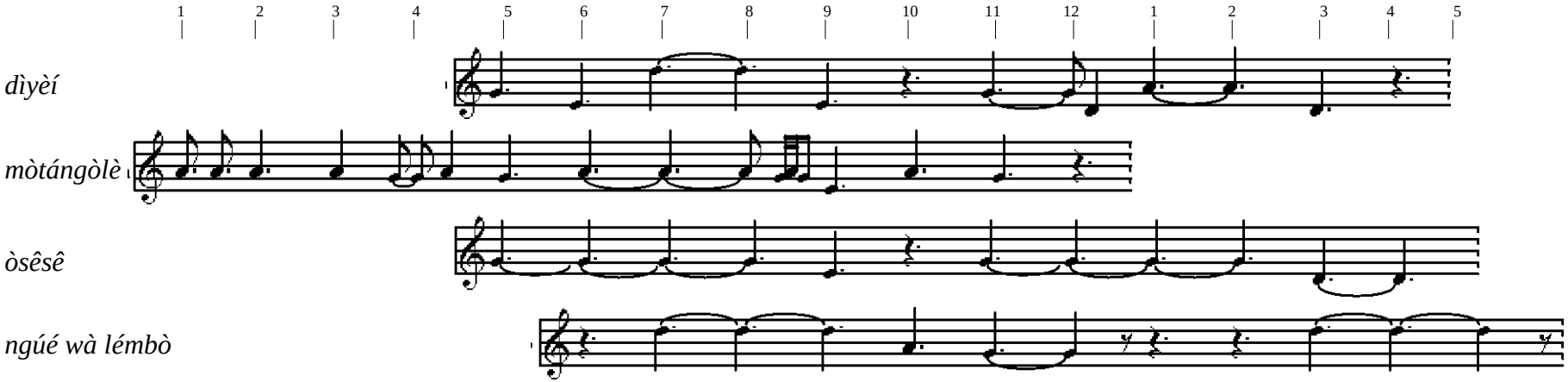
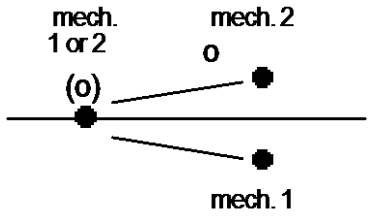


Figure 10. Structural overlapping of the four constituent parts.

Nevertheless, this principle seems not to be respected in var. *d-e*, *l-m*, *o* and *q* with the succession of two sounds in the same laryngeal mechanism. A closer look enables us to identify a rule underlying the treatment of small intervals in Aka yodelling (Fürniss 1991:183-185): the second sound of an ascending interval belongs always to the high yodel register (mechanism 2) and the second sound of a descending interval belongs to the low yodel register (mechanism 1):



Thus the execution – yodelled or not – of two adjacent degrees depends on the vocal register of the first degree, which is itself determined by its position within the melodic pattern and the type of variation chosen by the singer.

The polyphonic pattern and the substratum of the song

The superposition of the four parts (figure 10) illustrates the structural overlapping that operates in *dìkòbò dámù dá sòmbé*:

The *mòtángòlè* begins on beat 1, *dìyèí* and *òsêsê* on beat 5 and *ngúé wà lémbò* on beat 6 (or even 7 if one does not take in account the possible anacrusis on b.6). All pieces of the contrapuntal repertoires are based on this type of structural overlapping, but the specific relationship between the parts varies from one piece to another[24].

The musicians do not necessarily think of any particular position as being the "beginning" of the cycle. There are many points where you can start: in the recording of the *òsêsê*, for example, the singer began on b.3 of var. *d*. But in general, one of them is more appropriate than the others and appears statistically as the most common place to start. This is the point I have called "beginning".

The inscription of the most frequent minimal version of each part in the framework of *mòtángòlè*'s cycle (figure 11) shows that the cycle is filled out in such a way that there is never a common silence, no interruption in sound. It is a structural reinforcement of the cyclic character of the music: not only are the parts perpetually repeated and their beginning – indicated by a star – more statistical than conceptual, but their imbrication makes the music spin around without an overall beginning or ending. This is corroborated by the way a song and dance performance begins: one singer starts alone and the others join in after a while; endings are loose, with the voices fraying out successively. And those who begin, don't necessarily start with the *mòtángòlè*, as the reader can hear on CD track 7 (**file 1)**: the singer who begins the performance does not start with the *mòtángòlè*'s incipit, but with a variant of the yodelled part *dìyèí*. It seems that there are variations from one region to another, but Kisliuk (1998:112) describes this phenomenon very well: "At the beginning of a round, in the early stages of a dance, it is usually men and boys who establish support parts […] Usually, once some support parts have been voiced, people follow by taking up the theme. Sometmes, though, when the eboka [dance] is going strong, people begin a song with the theme itself".

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[24] For two other songs of the same divination repertoire *bòndó* – which means that they have the same rhythmic accompaniment – the overlapping is as follows:
- *kòkòyàndóngó: mòtángòlè* and *dìyèí* begin on b.1, *ngúé wà lémbò* and *òsêsê* on b.5.
- *mábé: mòtángòlè* begins on b.1, *ngúé wà lémbò* on b.3, *dìyèí* on b.8 and *òsêsê* on b.12.
Three different types of overlapping are visualised in the section "Recomposer" of the CD-ROM *Pygmées Aka. Peuple et Musique* (Arom *et al*. 1998).

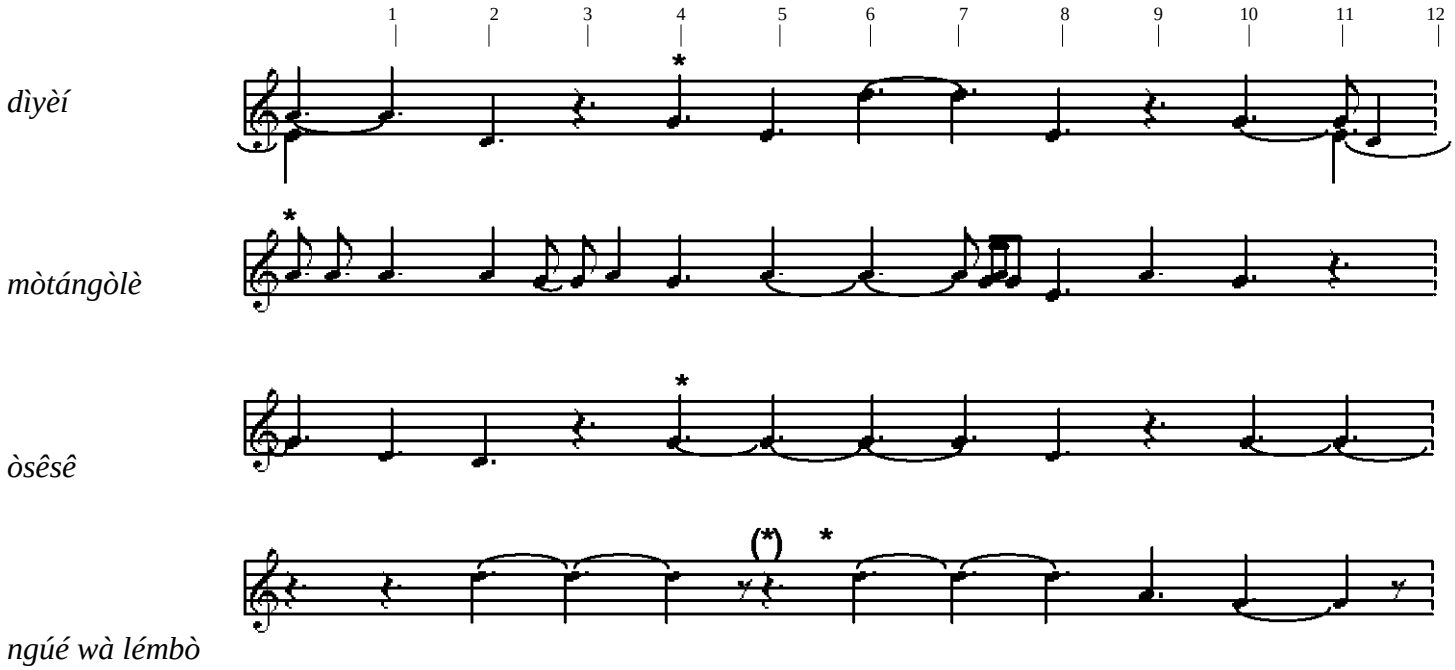

Figure 11. *Dìkòbò dámù dá sòmbé*. Polyphonic pattern.

As to the vertical structure of the four-part construction, the polyphonic pattern shows that at several points, some parts meet others on the same pitch:

- on b.1+2, *mòtángòlè* and *dìyèí* meet on [A];
- on b.3, *dìyèí*, *òsêsê* and *ngúé wà lémbò* meet on [D], which the latter maintain on b.4;
- on b.5, *dìyèí*, *mòtángòlè* and *òsêsê* meet on [G], etc.

Scanning for other vertical phenomena, we see three kinds of dyads : fifths, fourths and major seconds[25]. It is remarkable that [C] does not appear here. Indeed, in the individual parts, it is only used as a passing note between [D] and [A] and thus is excluded from the patterns. Therefore, in the polyphonic pattern of *dìkòbò dámù dá sòmbé*, we can find all other possible combinations of neighbouring degrees or of intervals that skip one degree, except for those including [C]. This is why there are hardly any dyads of thirds. Only the minor third [E]/[G] may appear on b.12 or in two positions where three tones meet at the same time (b.1+6).

If the rules of variation allow for the inversion of theses consonances – introducing the minor seventh and, exceptionally, the major sixth –, their position within the cycle is nevertheless predetermined and invariable. Thus, the succession of a given combination of tones in given positions of the cycle gives the *substratum* that bears the identity of a particular polyphonic song. The substratum for *dìkòbò dámù dá sòmbé* is the following:

[25] This is what lead Arom to speak of a "polyphony of conconances" and made him compare this music to medieval *Ars Nova* composition processes (1978).

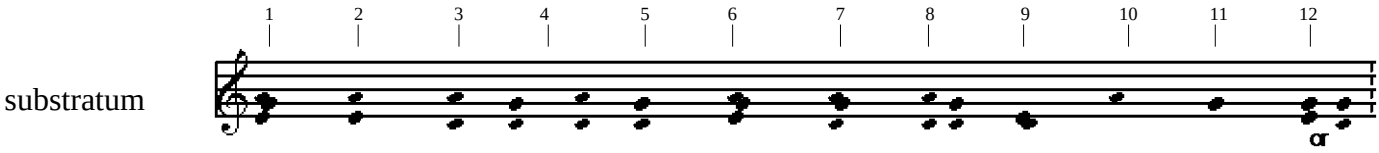

Figure 12. *Dìkòbò dámù dá sòmbé*. Substratum.

I have to underline that here we are at a point that lies beyond the Aka's conception as expressed through naming or describing verbalization. The substratum is a complete abstraction of any musical realization and its notation a pure product of musical analysis. Nontheless, its cultural relevance – *i.e.* its validity for Aka culture – can easily be recognized through any realization of *dìkòbò dámù dá sòmbé*, since all variants presented above can be generated from this very simple harmonic and metric scheme.

Musical practice: juggling with the substratum

Free movement in a polyphonic context

Facing the disconcerting simplicity of the substratum, one may ask: how come Aka polyphony sounds – or is – so complex? In spite of the modular character of their combinations, the variation techniques within a constituent part are quite limited. Paradoxically, the simplicity of the substrata is what makes the complexity so possible to achieve: points where two or more parts meet on the same tone are pivots that allow individual singers to switch from one part to another. And this is what brings music to life and what is interesting for the Aka. In their musical practice, distribution of the constituent parts is neither determined in advance nor invariable during performance. Singers are at liberty to change parts in the middle of a song, not only to another part th eoretically assigned to the singer's gender, but to any of the four parts (Arom 1994:145); men may yodel and women may sing the *ngúé wà lémbò*[26]. In an excellent and dense performance – where the best singers are in the groove – the voices rebound from one part to the others like billard-balls.

The ideal is that all parts be always present, but this is not always so. If during a ceremony, ritual efficiency is compromised, this is a point where the "master of the song" intervenes to remind the singers of the importance of a complete polyphonic performance. If I expose here an ideal, it is far from being consciously fixed in the mind of the singers. They just do it. And sometimes, it doesn't matter if the polyphony is complete, as soon as the groove is there. But even then, for the analyst, the interchangeability of the parts is what makes them so difficult to grasp and disentangle, and what necessitated the re-recording technique.

To this analytical difficulty we must add that a singer not only spontaneously chooses the part he wants to sing, but also its variants. "Thanks to his inculcation – that is his own cultural apprenticeship – each member of the community knows perfectly, at any point of the period of each song, and in relation to such a point, which variations he can execute" (Arom 1978). Thus, the melodic course of each singer depends on his capacity to use the pivot tones to move freely among the parts and to create original combinations of both parts and their variants. Some of these creations may be so successful that they become popular and are sung over and over by the whole camp before fashion changes for the benefit of another melodic combination (Kisliuk 1998:99); some of them may become part of an individual's "signature song style" (*ibid.*:102).

[26] Another description of flexibility and interchange of the parts can be found in Kisliuk (1998:112).

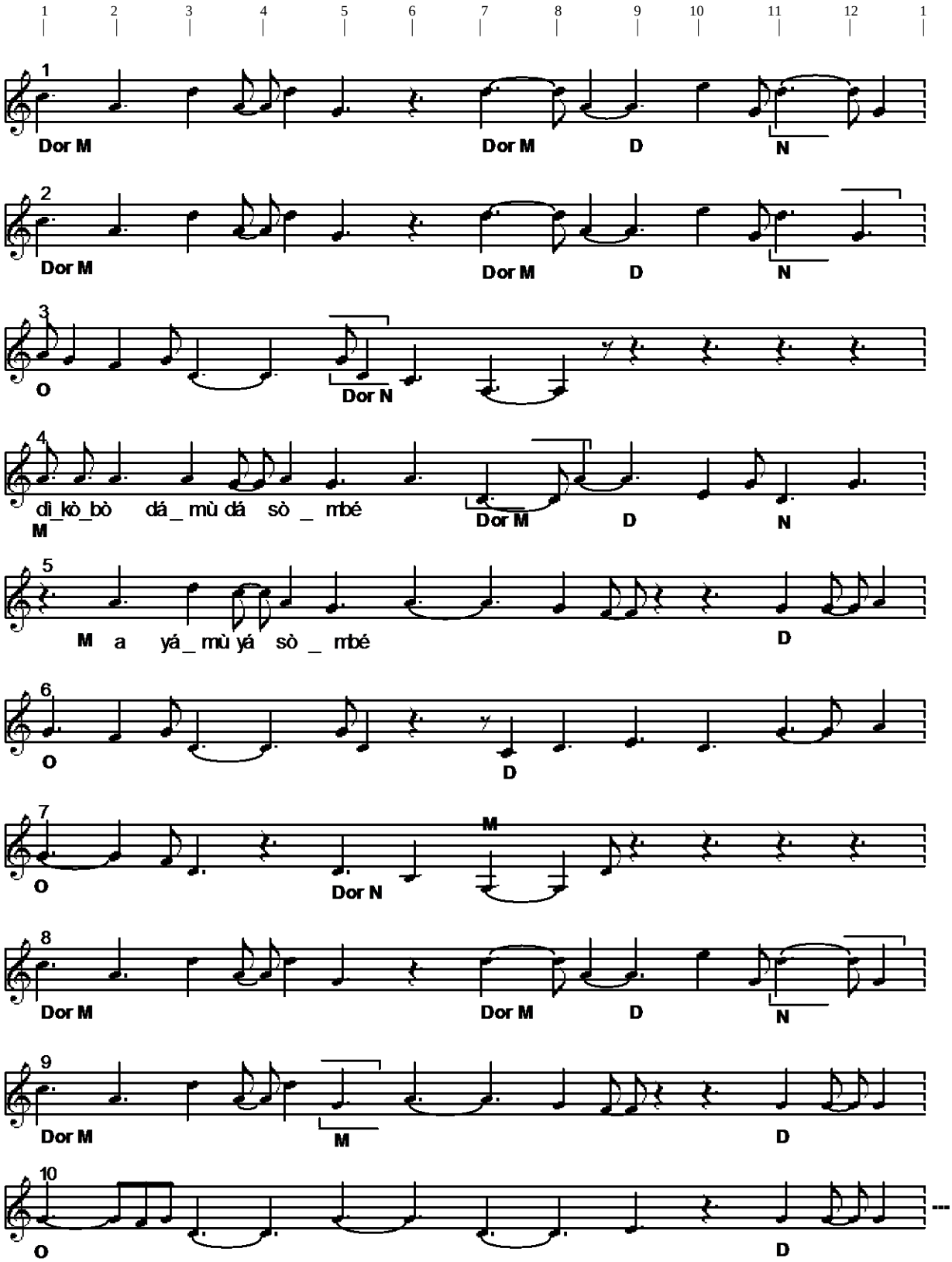

Figure 13. *Dìkòbò dámù dá sòmbé*. Solo sung by Moako.

The musicality of a singer seeks an echo in others' capacity to respond[27], as "nobody knows in advance what any other singer except himself will sing in the following second" (Arom & Dehoux 1978:70).

Pathways through the material

Singing Alone.

All Aka singing is collective, at least in concept. Even lullabies and love songs have a musical structure based on the complementarity of at least two parts. We nevertheless find solo realizations of contrapuntal pieces which – after an evening dance session – are repeated during daytime as an accompaniment of activities and marching (Kisliuk 1998:98-99). Indeed, even ritual songs can be performed out of context – lacking some ritually indispensible elements – and the presence of at least four singers is not necessary in order to sing a polyphonic song. Look at figure 13, *dìkòbò dámù dá sòmbé* sung by a young girl, for her own entertainment[28]. Only twelve years old, Moako is already a very good musician; the readers of this book may find it difficult to recognize the song.

This version illustrates the lining up of different constituent parts and their variants very clearly. All segments are derived from one of the four constituent patterns as indicated under the staff (M-*mòtángòlè*, N-*ngúé wà lémbò*, O-*òsêsê*, D-*dìyèí)*. The transcription takes in account the multiple realizations of some of the pitches. When [F] or [B] appear, they can be considered variants of [E] and [C], respectively, and are included to show how flexible the performer's conception of singing « in tune » can be. They are nevertheless part of the anhemitonic pentatonic system, as the melodic minor seconds [E]-[F] or [B]-[C] never appear as such[29]. The determination of a segment's origin in a particular constituent part is sometimes difficult, as the structural overlapping allows for the same melodic movement to be interpreted as belonging to either of two different parts. These points are indicated ⌐¬.

The singer uses mainly segments from the women's parts *òsêsê* and *dìyèí*, plus others from the *mòtángòlè* part. In the first part of most of the cycles, derivations from *mòtángòlè* and *òsêsê* are predominant, where as the middles and the ends of the cycles are dominated by segments derived from *dìyèí*; some of them could be interpreted as belonging to *ngúé wà lémbò*, as its rhythmic structure merges with *dìyèí*'s. Figures 14 to 16 depict the derivations of the main variants. One finds the same variation principles as those described above, but one also finds segment combinations that did not appear in the re-recording version. These derivations are used both in figure 13 and figure 17. Their occurence is indicated on the right of the notation.

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[27] You may experience reactivity in the interchange of parts. Take any four-part polyphony (Renaissance…) and four singers, switch freely from one part to the other and try to have all of them present through the entire performance.

[28] Can be heard on *Aka Pymy Music*, UNESCO, Musics and Musicians of the World, Auvidis D8054, tr. 3.

[29] For more on the Aka scale system, see Fürniss (1993b), Arom & Fürniss (1993).

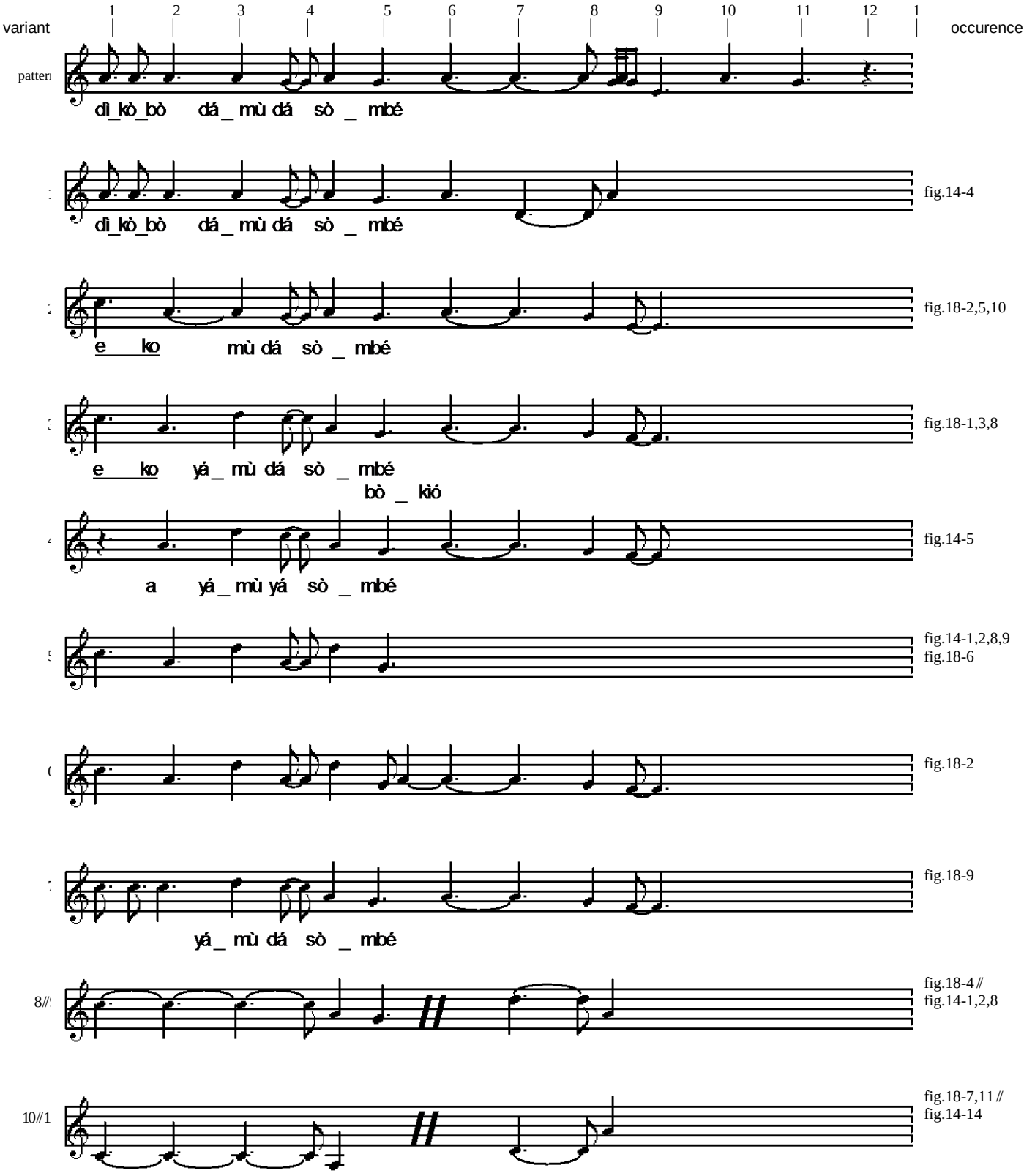


Figure 14. Segments derivated from *mòtángòlè*.

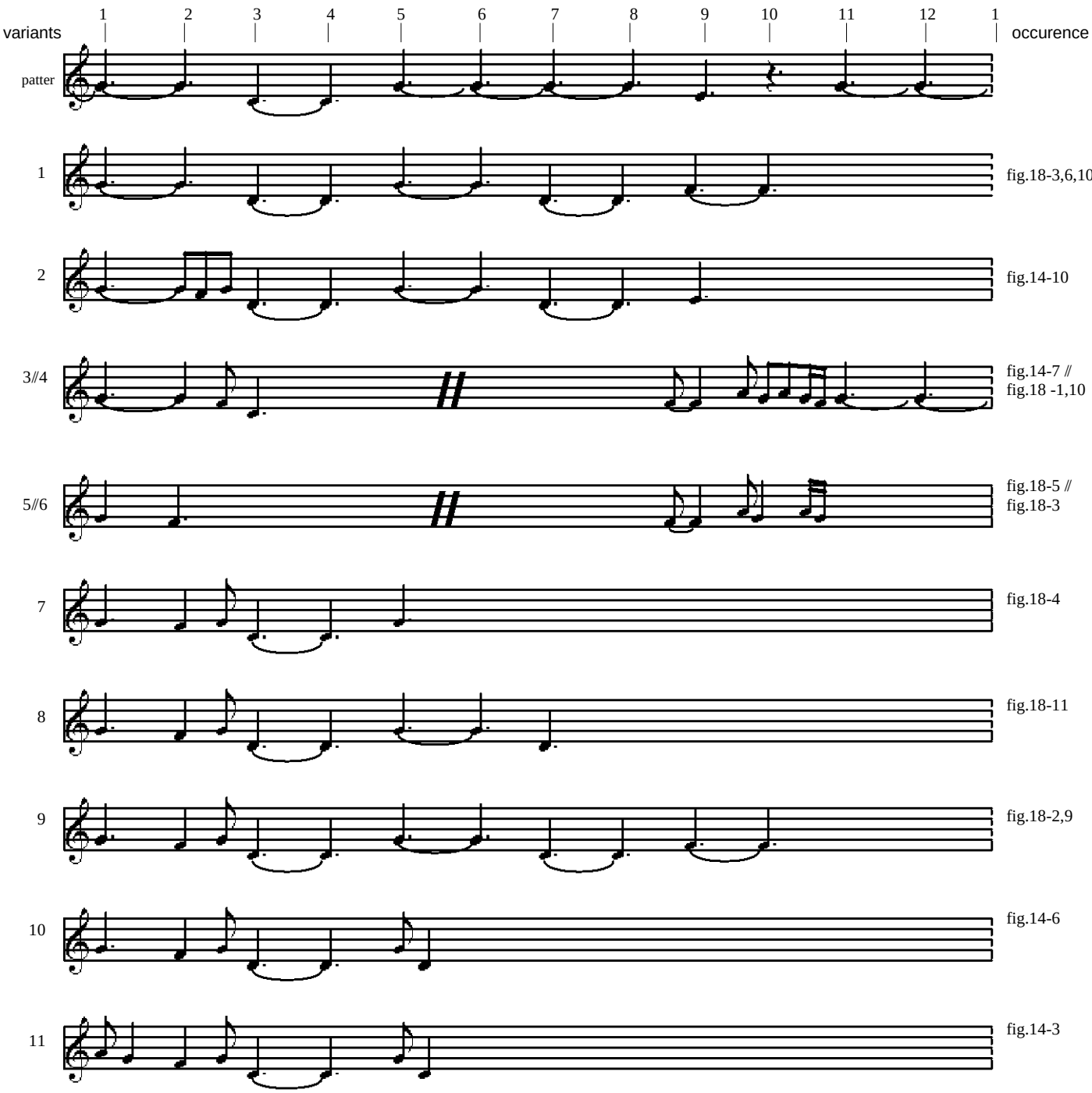


Figure 15. Segments derivated from *òsêsê*.

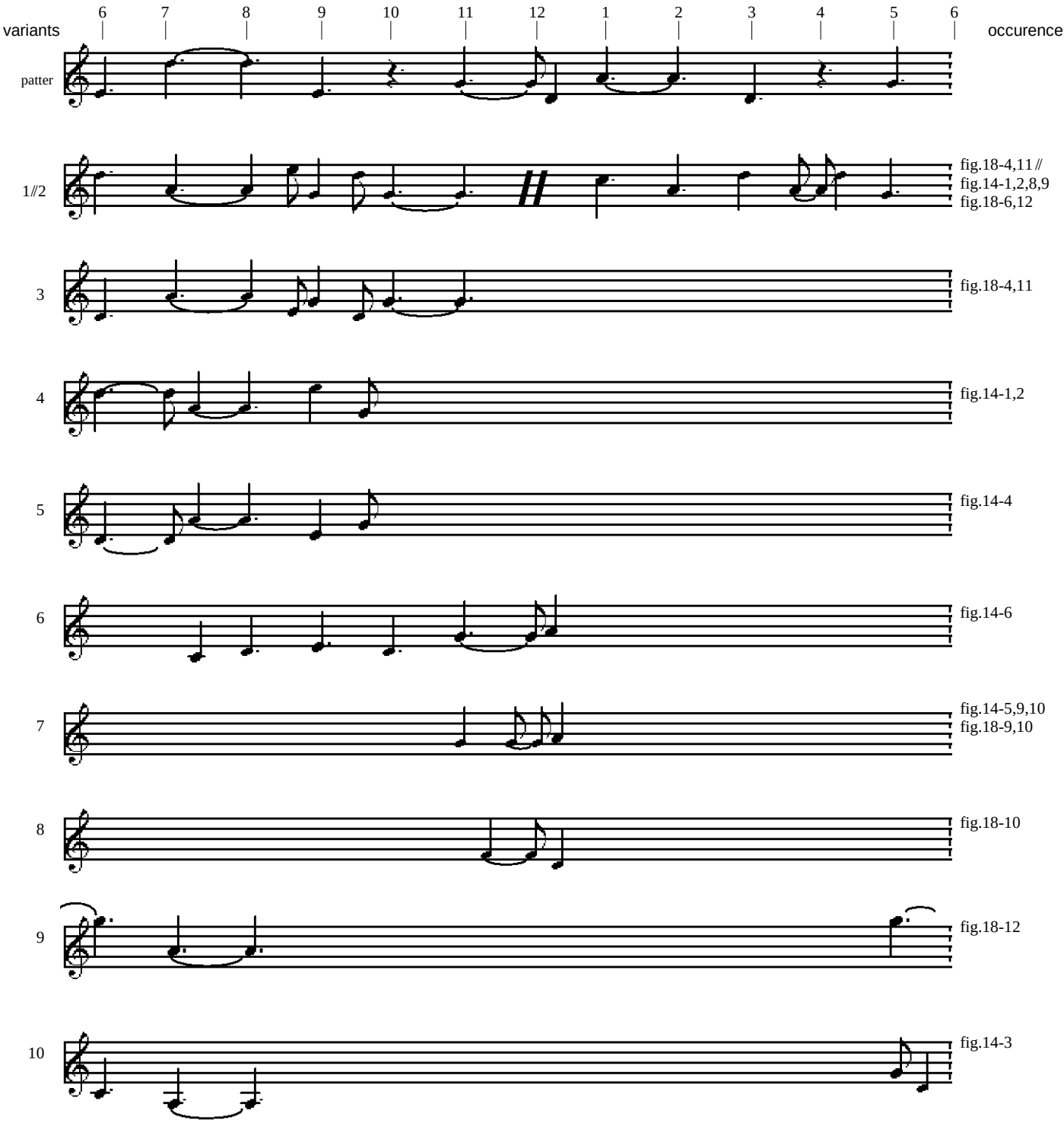


Figure 16. Segments derivated from *dìyèí*.

We can consider the solistic realization of a contrapuntal piece as if it were one voice within a polyphonic performance, since – as with each singer's line in a polyphony – choices stem from a concern for diversity that has its origin in a vertical, contrapuntal conception.

Singing in Duo

The solo version of *dìkòbò dámù dá sòmbé* shows only one of many possible ways to create a pathway through the musical material. Listen to a duet version (CD track 11) (**file 5)**, where Moako is joined by her friend Dikondi. This performance contains roughly the same material as in the solo version, but it is integrated into a pair of distinct melodic lines in which the

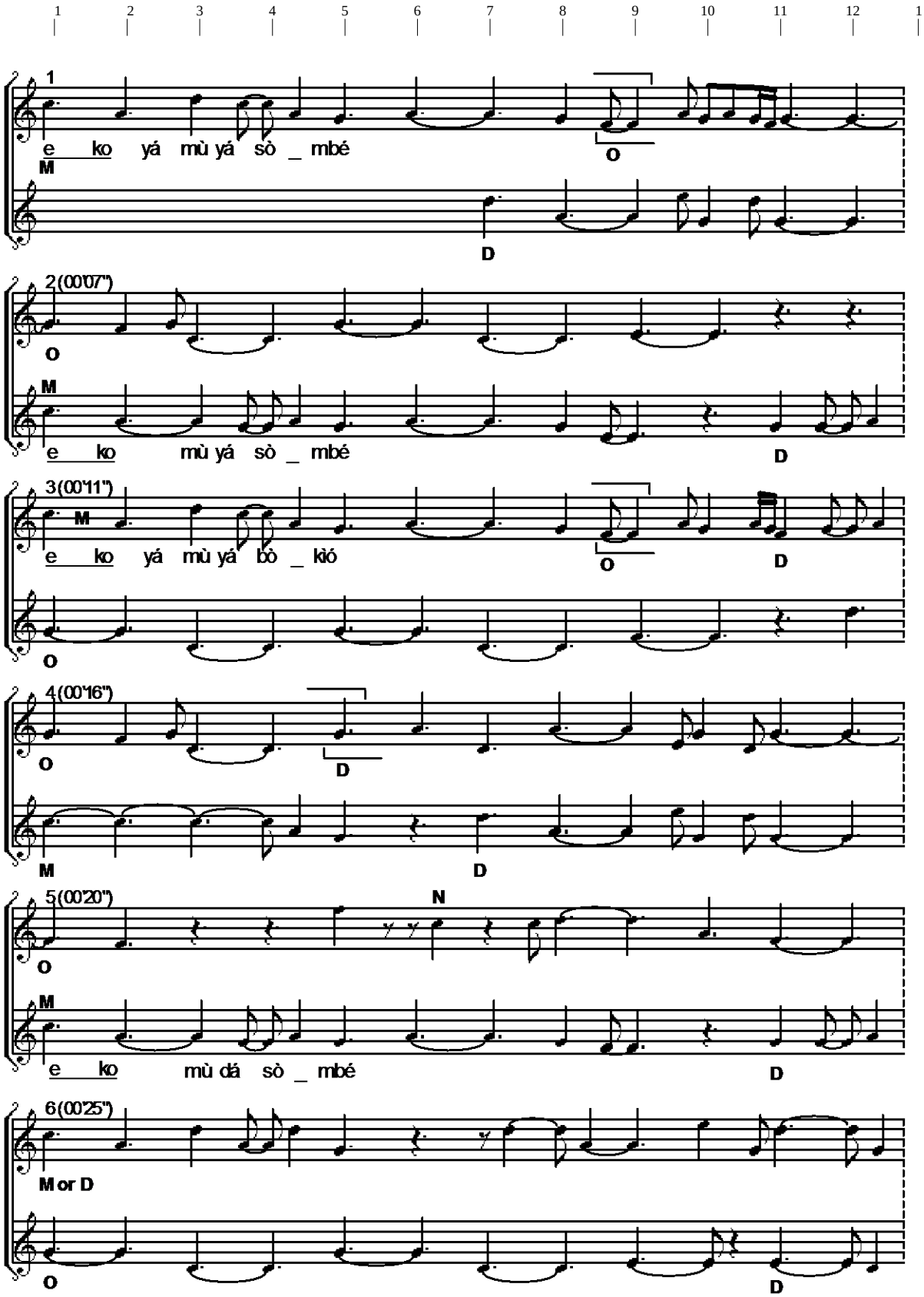


Figure 17. *Dìkòbò dámù dá sòmbé*. Duet sung by Moako and Dikondi.

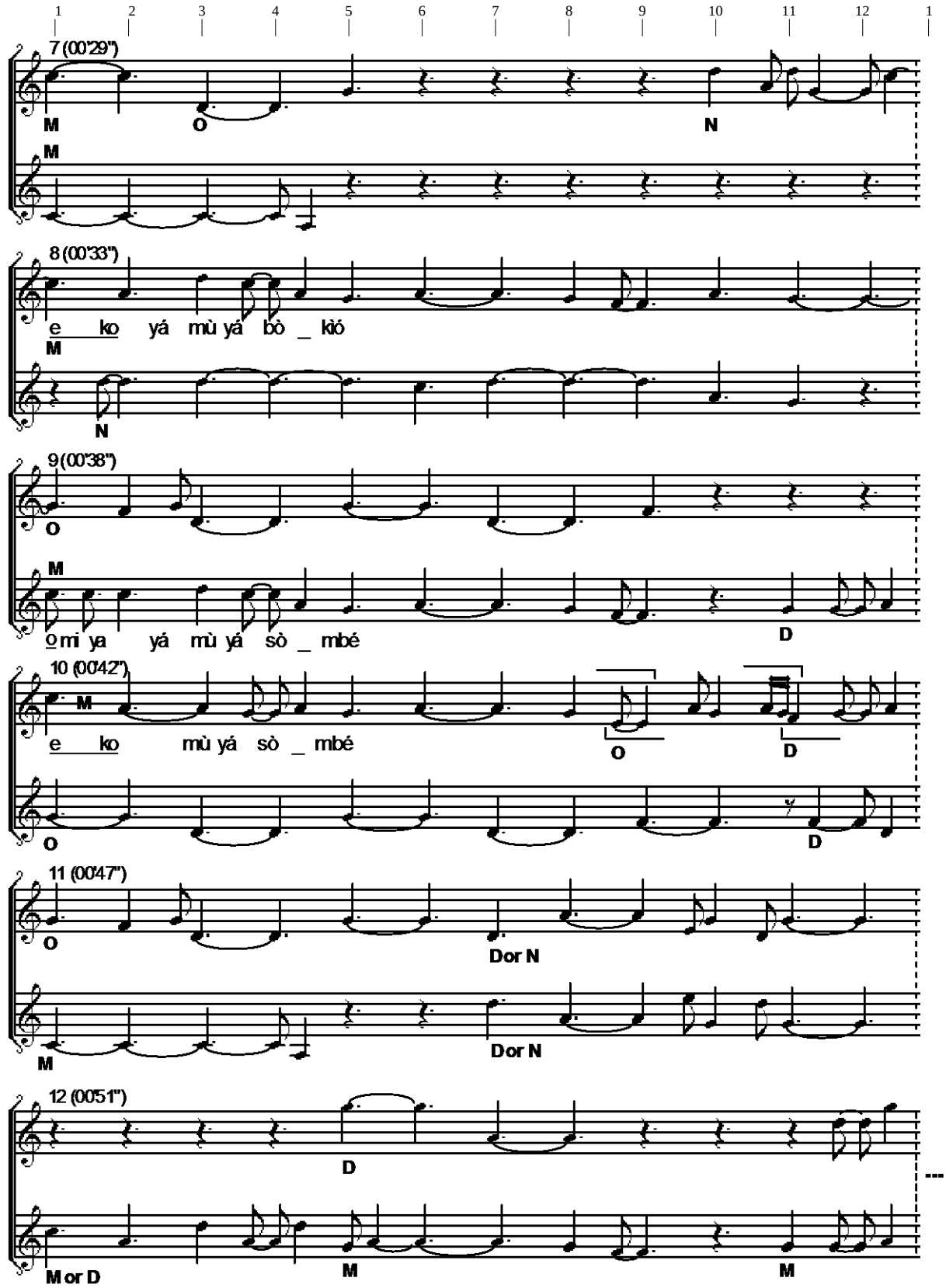
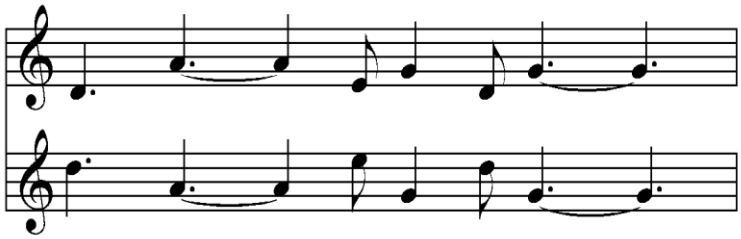


Figure 17 continued.

segments are distributed between the two singers very differently (figure 17). There is much less *dìyèí*, a bit more *ngúé wà lémbò*, but mainly derivations of *mòtángòlè* and *òsêsê*.

The responsiveness of each singer to what the other sings determines the trajectory of each one's melody. Indeed, as soon as two singers join in a song, they try to be *complementary*. This can be a very simple procedure. Periods 2-4 and 9-11 illustrate the *exchange of parts*: the girl who sang *mòtángòlè* switches to *òsêsê* while her companion switches the other way round, from *òsêsê* to *mòtángòlè*. Moreover, the transcription shows that there are very few points where the two voices meet or are in a real unisson. During some of them (cycles 4 and 11) an ingenious procedure can be observed, the *simultaneous variation* that deploys the material in a mirror thanks to the equivalence of octaves:



This simultaneous variation of identical material testifies to the extremely rapid reaction of the singers and their ability to immediately and economically transform the musical material. Moako, the solo singer, used the same kind of mirror principle in successive periods (figure 13, per.1, 2 and 4).

Some segments of these two realizations are very difficult to assign to one of the conceptual parts. The mirror variants just mentioned (var. 1, 3-5 and 9 of the *dìyèí*'s derivates, figure 16) are good examples. I mentioned earlier that yodelling can be used as a variation process in other parts than *dìyèí*. The proximity between var. 1 of figure 16 (*dìyèí*'s derivates) and var. 5+6 of figure 14 (*mòtángòlè*'s derivates) illustrates this. They are quasi identical, but nevertheless linked organically to both parts. We are here at the limit of systematic analysis as in practice, the girls we heard in CD track 11 (**file 5)** varied the basic material in such a way that the parts are interwoven and it is hard to determine the segment's origin. When the singers push the combination of variation techniques to its limits, the parts seem to merge until they are dissolved in an individual's creation, which transcends them.

Conclusion and Perspectives

Aka polyphony does not substantially differ from any other Central African polyphony, although others are generally instrumental. They share the main variation techniques – as commutation of intervals and free combination of variants (Dehoux 1986, Arom 1991) – and a substratum that underlies different parts (Le Bomin 2004:21) and may generate simultaneous instrumental and vocal realizations.

One particularity of Aka – as of most other Pygmies' – polyphony is that, in an African context, vocal *counterpoint* is quite rare. The other vocal polyphonies are usually built on a responsorial alternation between a soloist and a choir, the latter singing two parts in mainly parallel movement. Kubik (1968:28) described the skipping process that combines a scale degree with the one two steps away, and which leads to the main harmonic areas described by Jones (1959:220). This principle is valid all over the continent and also characterizes most of the Aka's non contrapuntal repertoires (such as *mòbándì*, *dìsàò* and *kóbá*, see figure 1). Independent melodic lines in homophony, *i.e.* in homorhythmic progression, are sung by South Africa's township choirs (Coplan 1985), but real counterpoint – independence of melodies and rhythms –, is significant only in two other African regions: in the East where

Ethiopia and Tanzania are good representants[30] and in the South, mainly in Botswana and Namibia[31].

These different vocal counterpoints do not work in the same way everywhere. One important outcome of musical analysis as practiced in this article is that – combined with observation and interviews – it gives solid access to the singers' *conception* of their own music. Bringing to light the musical principles that underly a performance gives insight into the cognitive – mainly non verbalised – processes that guide a singer intuitively. Applied to different musics, analysis allows a comparative study of similar musical styles in order to determine their proximity or distance. As an example, in Olivier & Fürniss (1999), Aka counterpoint has been considered alongside the contrapuntal polyphony of the Ju|'hoansi of Namibia to consider the possibility of a relationship between Pygmy and Bushmen music. This comparative study of musical characteristics has shown that, although many musical and extramusical features converge and though the acoustic results are very close, the conception that the Ju|'hoansi have of their music is radically opposite to the Aka's. In fact, Ju|'hoansi music does not proceed from a basic multipart pattern, but it is generated from a single melody that is simultaneously materialized in different tessituras (Olivier 1998).

The theoretical musicological concerns developed here are, as we said earlier, not shared by the Aka. Still, the interaction and complementarity of four named – and thus explicitly conceptual – parts in any Aka music reflects an important philosophical perspective. Life is only possible within the community; no project can be achieved alone. But among the Aka, having a "generally egalitarian lifestyle" (Kisliuk 1998:131), nobody makes decisions for the group as a whole, and there is leeway for negotiating individual behavior within the limits of social acceptability[32]. Transposed to music, this constrained liberty finds its parallel in the contrapuntal conception of the most important ritual musics (Arom 1978). There is a necessary complementarity between the parts as is the case in society: "… as in daily life, everybody is responsible for his acts in relation to the survival of his entire community, [and] in musical practice, every musician realizes his part in relation to what the others sing around him" (Bahuchet 1995:61-2). The variation techniques offer important means to individual expression and creativity. Virtuosity may exploit the entire margin of liberty offered by the pattern until the underlying theoretical framework of constituent parts may be hidden or transcended.

Performers do not think about structural features and thus access to structural elements is difficult to obtain by observation. And here is where systematic analysis as practiced here elucidates the relationships that exist between musical grammar, autochthonous terminology, symbolic conceptions and implementation in performance. There is no doubt anymore that analysis is more than an objective in itself. We have known since long ago that Aka singing is complex and perpetually varying. But only after describing the parts and the way they are modeled do we have *concrete criteria* to recognize and appreciate individual expression and interaction in performance Experience this when listening again to CD track 7 (**file 1)**.

We know that as much as the grammar of a language is not literature, musical rules are not performance. In this sense, the demonstration of the basic concepts of Aka music theory does not tell us how music is experienced. But it allows us to understand the formal musical elements that are interwoven with social, religious, economical and esthetic factors for any culturally relevant performance. As in language, musical rules are neither necessarily explicit nor formally taught, but the fact that people don't speak about them doesn't mean that they don't exist. Thus a systematic approach to traditional music is not antagonist to a dynamic

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[30] Ethiopia: Dorze (Jenkins 1968, Lortat-Jacob 1994), Ghimira, Maji (Jenkins 1968), etc.; Tanzania: Wagogo (Vallejo 2004).

[31] Botswana: Bushmen (England 1967); Namibia (Olivier 1998).

[32] This is an important issue in Kisliuk: "Elanga [the elder of a camp] was quietly ignored, as is often the case when BaAka issue authoritive statements to each other" (1998:78); for the question of egalitarian lifestyle, see also pp. 131-133.

approach. The study of structure is complementary to the study of interaction and I am rather tempted to say that it should precede it: under the condition that it is conducted in very close relation to ethnography, musical analysis provides relevant criteria concerning the musical material that is brought into operation during a performance and becomes an excellent starting point for the study of esthetic and social realms.

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